del psi

MLV-LTR

SD

Mo MLV GAG-POL

SA

BSR

Poly A

Pol gene...TCT AGA CTG ACA TG G CGC

GTT CAA CGC TCT CAA AAC CCC TTA

AAA ATA AGG TTA ACC CGC GAG GCC

CCC TAA

tccccttaattcttctgatgctcagagggggtcagtac

tgcttcgcccggctccagtgcgccccagccggccacc

ATG AAA ACA TTT AAC ATT TCT...bsr gene

Figure 1. Schematic structure of CeB expression vector

Env gene...TAC GAG CCA **TAG**

ggcg<u>cc</u>tagtgttgacaattaatcatcggcatagtata

cggcatagtataatacgactcactataggaggggccacc

<u>**ATG**</u> GCC AAG TTG ACC...phleo gene
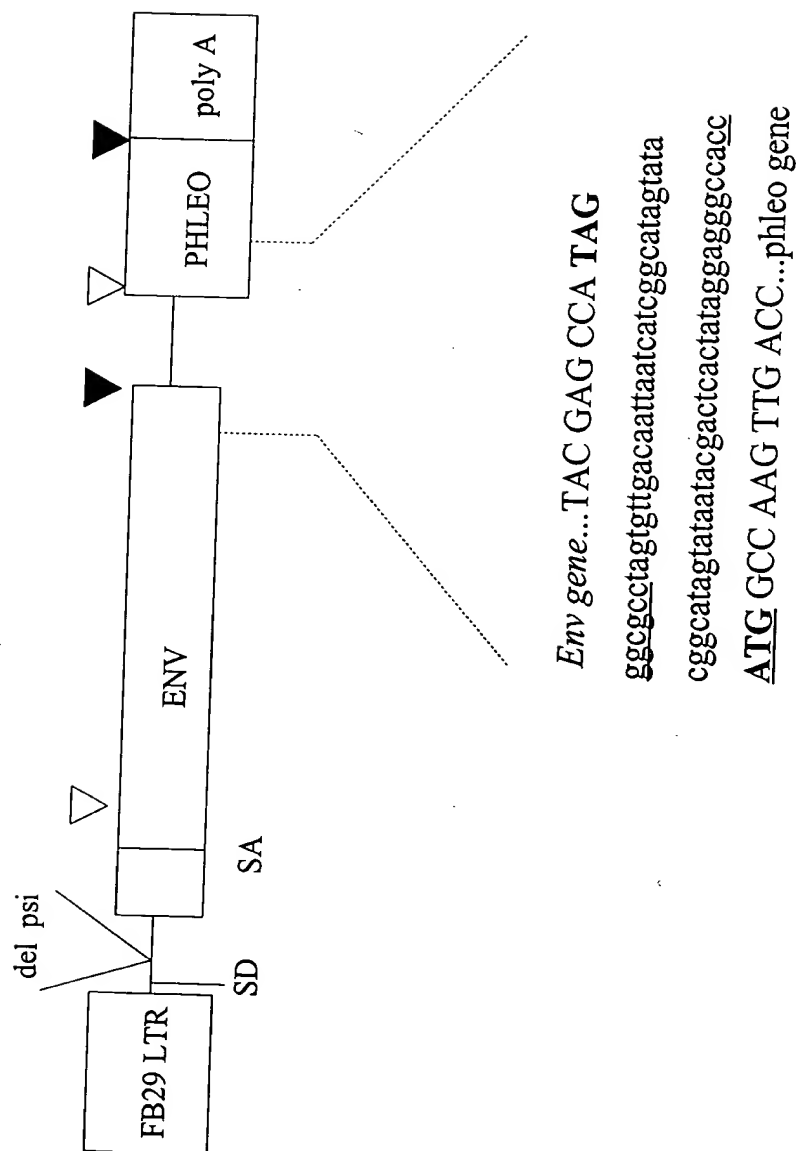
Figure 2. Schematic structure of FbdelPASF expression vector

FBdelPASAF

FB29 LTR — 4070A MLV env | Cla I | Kas I | phleo — poly A

MscI/BglII

FBdelPMOSAF

FB29 LTR — Mo MLV env | Cla I | Kas I | phleo — poly A

MscI/BglII

FBdelPRDSAF

FB29 LTR — sc3c RD114 env | Kas I | phleo — poly A

Msc I/NdeI

FBdelPBSAF

FB29 LTR — FELV-B env | Kas I | phleo — poly A

MscI/BamHI

FBdelPXSAF

FB29 LTR — NZB MLV-X env | Cla I | Kas I | phleo — poly A

MscI/BglII

FBdelP10A1SAF

FB29 LTR — 10A1 MLVenv | Cla I | Kas I | phleo — poly A

Msc I/BglII

FBdelPGASAF

FB29 LTR — GALV env | Cla I | Kas I | phleo — poly A

MscI/BamHI

FBdelVSVGSAF

FB29 LTR — VSV-G | Kas I | phleo — poly A

MscI/BglII

CMV10A1SAF

SD SA

hCMV — 10A1 MLVenv | Cla I | Kas I | phleo — poly A

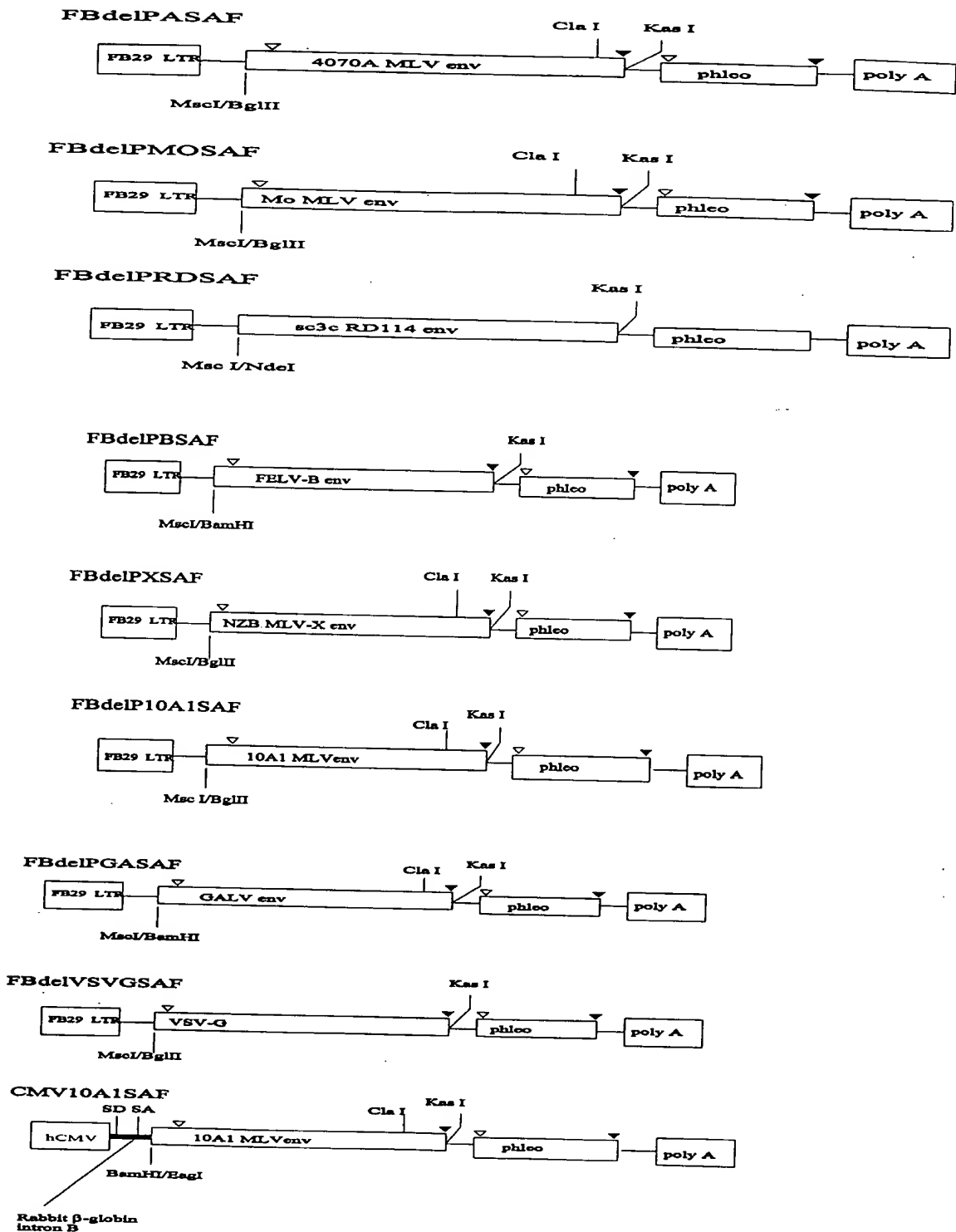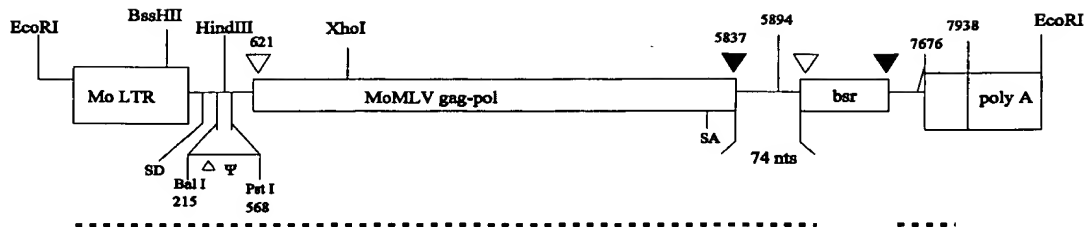BamHI/EagI

Rabbit β-globin intron B

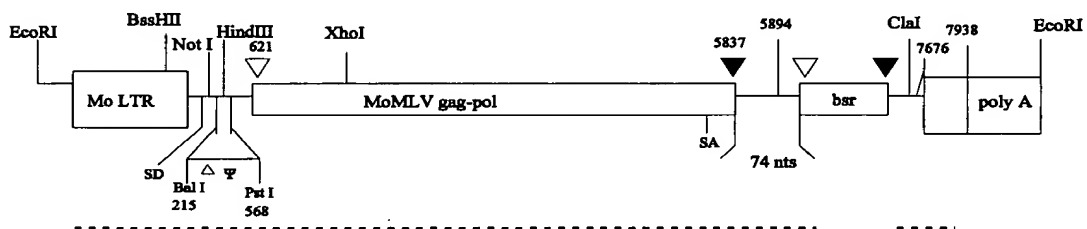Figure 3. Schematic structure of env expression vectors

```
NGAGCTCAGGACAGGTAGAAAGAATGAATAGAACAATAAAAGAGACCCTTACTAAATTGA   60
CCTTAGAGACTGGCTTAAAAGATTGGAGACGCCTCCTATCTCTGGCTTTGTTAAGAGCCA  120
GAAATACGCCCAACCGTTTTCGGCTCACCCCATATGAAATCCTTTATGGGGGACCCCCCC  180
CTTTGTCAACCTTGCTCAATTCCTTCTCCCCCTCCGATCCTAAGACTGATTTACAAGCCC  240
GACTAAAAGGGCTGCAAGGCGTGCAGGCCCAAATCTGGACACCCCTGGCCGAATTGTACC  300
GGCCAGGACATCCACAAACTAGCCACCCATTTCAGGTGGGAGACTCCGTGTACGTCCGGC  360
GGCACCGCTCTCAAGGATTGGAGCCTCGTTGGAAGGGACCTTACATCGTCCTGCTGACCA  420
CGCCCACCGCCATAAAGGTTGACGGGATCGCCGCCTGGATTCACGCATCGCACGCCAAGG  480
CAGCCCCAAAAACCCCTGGACCAGAAACTCCCAAAACCTGGAAGCTCCGCCGTTCGGAGA  540
ACCCTCTTAAGATAAGACTCTCCCGTGTCTGACTGCTAATCCACCTTGTCCCTGTACTAA  600
CCCAAAATGAAACTCCCAACAGGAATGGTCATTTTATGTAGCCTAATAATAGTTCGGGCA  660
GGGTTTGACGACCCCCGCAAGGCTATCGCATTAGTACAAAAACAACATGGTAAACCATGC  720
GAATGCAGCGGAGGGCAGGTATCCGAGGCCCCACCGAACTCCATCCAACAGGTAACTTGC  780
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ACAGCCCCCATCCATATCTCCGATGGTGGAGGACCCCTCGATACTAAGAGAGTGTGGACA 1140
GTCCAAAAAAGGCTAGAACAAATTCATAAGGCTATGACTCCTGAACTTCAATACCACCCC 1200
TTAGCCCTGCCCAAAGTCAGAGATGACCTTAGCCTTGATGCACGGACTTTTGATATCCTG 1260
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TGTTTAAAACTAGGTACCCCTACCCCTCTTGCGATACCCACTCCCTCTTTAACCTACTCC 1380
CTAGCAGACTCCCTAGCGAATGCCTCCTGTCAGATTATACCTCCCCTCTTGGTTCAACCG 1440
ATGCAGTTCTCCAACTCGTCCTGTTTATCTTCCCCTTTCATTAACGATACGGAACAAATA 1500
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GTACAGTTCATCCCTTTACTAGCTGGACTGGGAATCACCGCAGCATTCACCACCGGAGCT 1800
ACAGGCCTAGGTGTCTCCGTCACCCAGTATACAAAATTATCCCATCAGTTAATATCTGAT 1860
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GTAGTTCTCCAAAATAGGAGGGGACTGGACCTACTAACGGCAGAACAAGGAGGAATTTGT 1980
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ATAAGAACCCTACAAGAAGAATTACAAAAACGCAGGGAAAGCCTGGCAACCAACCCTCTC 2100
TGGACCGGGCTGCAGGGCTTTCTTCCGTACCTCCTACCTCTCCTGGGACCCCTACTCACC 2160
CTCCTACTCATACTAACCATTGGGCCATGCGTTTTCAGTCGCCTCATGGCCTTCATTAAT 2220
GATAGACTTAATGTTGTACATGCCATGGTGCTGGCCCAGCAATACCAAGCACTCAAAGCT 2280
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CCCCCCACCTTTGCTACATAAATAACCGCTTTCATTTCGCTTCTGTAAAACGCTTATGCG 2400
CCCCACCCTAGCCGGAAAGTCCCCAGCCGCTACGCAACCCGGGCCCCGAGTTGCATCAGC 2460
CGTTCGCAACCCGGGCTCCGAGTTGCATCAGCCGAAAGAAACTTCATTTCCCAAGCTT 2518
```

Fig.4

CeB

EcoRI   BssHII   HindIII   XhoI   5894   7938   EcoRI
                      621   5837   7676

Mo LTR │ │ │   MoMLV gag-pol   ▼   ▽   bsr   poly A

SD   │ △ Ψ   SA
   Bal I   Pst I   74 nts
   215   568

-      · · · · ·

CeB DS-

EcoRI   BssHII   HindIII   XhoI   5894   ClaI 7938   EcoRI
              Not I   621   5837   7676

Mo LTR │ │ │   MoMLV gag-pol   ▼   ▽   bsr   poly A

SD   │ △ Ψ   SA
   Bal I   Pst I   74 nts
   215   568

-    · · · · ·

hCMV-intron

                      BssHII   HindIII   XhoI   Sac I   Sal I   5894   Cla I
                                   621   5837   EcoRI

hCMV │ │ │   MoMLV gag-pol   ▼   ▽   bsr   ┆ poly A ┆

Sac I   SacI   │ △ Ψ   SA
Sac II   Bal I   Pst I   74 nts
Bstx I   215   568
Not I
Xba I
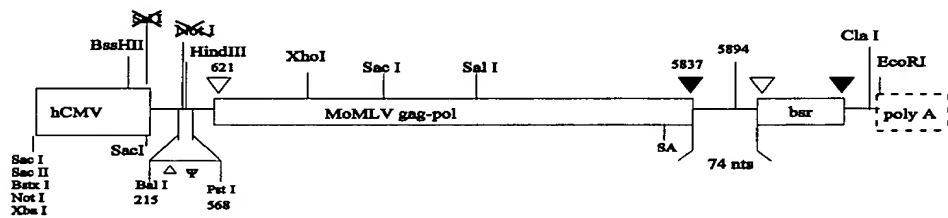
- -
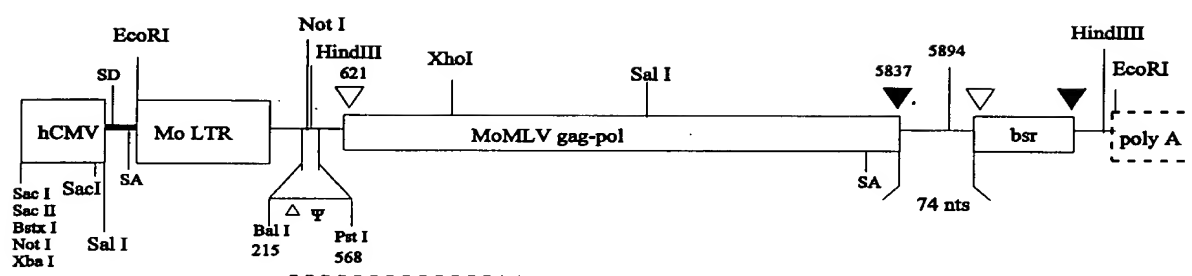
Figure 5. Genetic structure of gag-pol constructs (page 1/3)

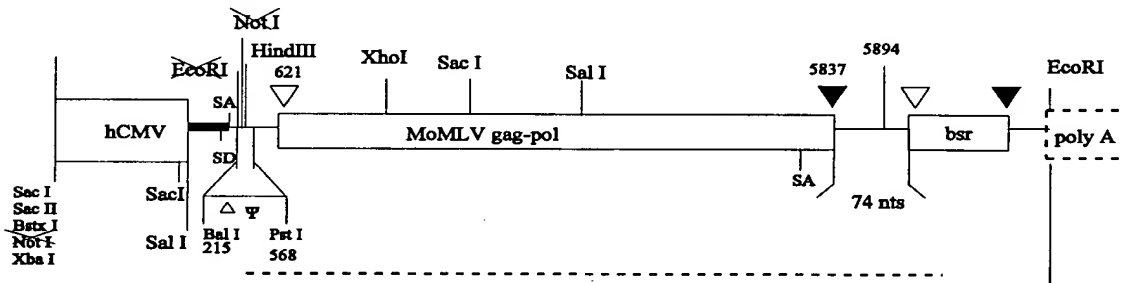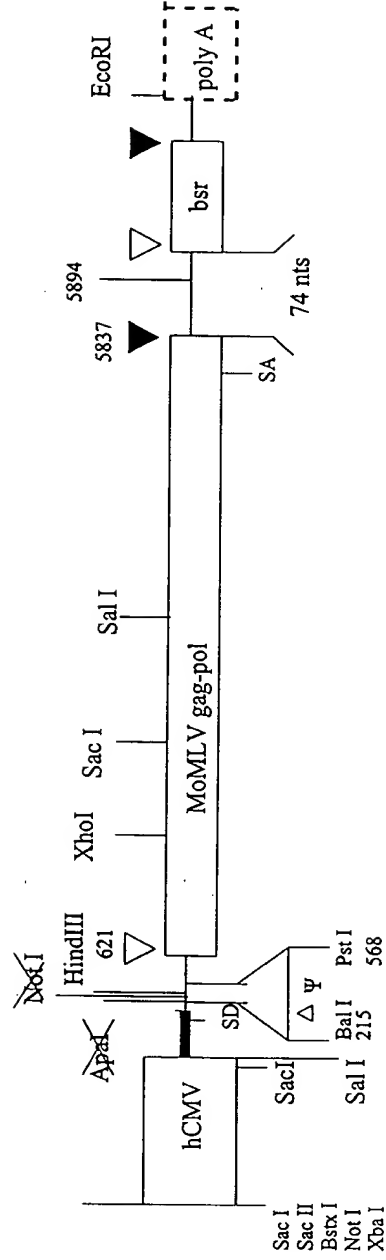**hCMV-intron 2P**

hCMV + intron ,
hCMV + intronkaSD

Figure 5. Genetic structure of gal-pol constructs (page 2/3)
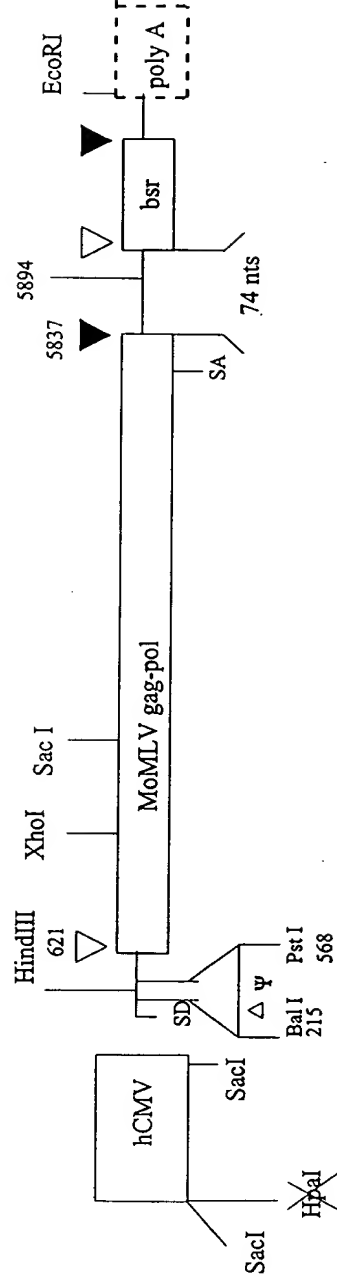
hCMV +SD intron

hCMV + leader

Figure 5. Genetic Structure of gag-pol constructs (page 3/3)

Figure 6a. CeB Sequence

```
AATGAAAGAC CCCACCTGTA GGTTTGGCAA GCTAGCTTAA GTAACGCCAT TTTGCAAGGC        60
ATGGAAAAAT ACATAACTGA GAATAGAGAA GTTCAGATCA AGGTCAGGAA CAGATGGAAC       120
AGCTGAATAT GGGCCAAACA GGATATCTGT GGTAAGCAGT TCCTGCCCCG GCTCAGGGCC       180
AAGAACAGAT GGAACAGCTG AATATGGGCC AAACAGGATA TCTGTGGTAA GCAGTTCCTG       240
CCCCGGCTCA GGGCCAAGAA CAGATGGTCC CCAGATGCGG TCCAGCCCTC AGCAGTTTCT       300
AGAGAACCAT CAGATGTTTC CAGGGTGCCC CAAGGACCTG AAATGACCCT GTGCCTTATT       360
TGAACTAACC AATCAGTTCG CTTCTCGCTT CTGTTCGCGC GCTTCTGCTC CCCGAGCTCA       420
ATAAAAGAGC CCACAACCCC TCACTCGGGG CGCCAGTCCT CCGATTGACT GAGTCGCCCG       480
GGTACCCGTG TATCCAATAA ACCCTCTTGC AGTTGCATCC GACTTGTGGT CTCGCTGTTC       540
CTTGGGAGGG TCTCCTCTGA GTGATTGACT ACCCGTCAGC GGGGGTCTTT CATTTGGGGG       600
CTCGTCCGGG ATCGGGAGAC CCCTGCCCAG GGACCACCGA CCCACCACCG GGAGGTAAGC       660
TGGAAGCTTC TGCAGCATCG TTCTGTGTTG TCTCTGTCTG ACTGTGTTTC TGTATTTGTC       720
TGAGAATATG GGCCAGACTG TTACCACTCC CTTAAGTTTG ACCTTAGGTC ACTGGAAAGA       780
TGTCGAGCGG ATCGCTCACA ACCAGTCGGT AGATGTCAAG AAGAGACGTT GGGTTACCTT       840
CTGCTCTGCA GAATGGCCAA CCTTTAACGT CGGATGGCCG CGAGACGGCA CCTTTAACCG       900
AGACCTCATC ACCCAGGTTA AGATCAAGGT CTTTTCACCT GGCCCGCATG GACACCCAGA       960
CCAGGTCCCC TACATCGTGA CCTGGGAAGC CTTGGCTTTT GACCCCCCTC CCTGGGTCAA      1020
GCCCTTTGTA CACCCTAAGC CTCCGCCTCC TCTTCCTCCA TCCGCCCCGT CTCTCCCCCT      1080
TGAACCTCCT CGTTCGACCC CGCCTCGATC CTCCCTTTAT CCAGCCCTCA CTCCTTCTCT      1140
AGGCGCCAAA CCTAAACCTC AAGTTCTTTC TGACAGTGGG GGGCCGCTCA TCGACCTACT      1200
TACAGAAGAC CCCCCGCCTT ATAGGGACCC AAGACCACCC CCTTCCGACA GGGACGGAAA      1260
TGGTGGAGAA GCGACCCCTG CGGGAGAGGC ACCGGACCCC TCCCCAATGG CATCTCGCCT      1320
ACGTGGGAGA CGGGAGCCCC CTGTGGCCGA CTCCACTACC TCGCAGGCAT TCCCCCTCCG      1380
CGCAGGAGGA AACGGACAGC TTCAATACTG GCCGTTCTCC TCTTCTGACC TTTACAACTG      1440
GAAAAATAAT AACCCTTCTT TTTCTGAAGA TCCAGGTAAA CTGACAGCTC TGATCGAGTC      1500
TGTTCTCATC ACCCATCAGC CCACCTGGGA CGACTGTCAG CAGCTGTTGG GGACTCTGCT      1560
GACCGGAGAA GAAAAACAAC GGGTGCTCTT AGAGGCTAGA AAGGCGGTGC GGGGCGATGA      1620
TGGGCGCCCC ACTCAACTGC CCAATGAAGT CGATGCCGCT TTTCCCCTCG AGCGCCCAGA      1680
CTGGGATTAC ACCACCCAGG CAGGTAGGAA CCACCTAGTC CACTATCGCA AGTTGCTCCT      1740
AGCGGGTCTC CAAAACGCGG GCAGAAGCCC CACCAATTTG GCCAAGGTAA AAGGAATAAC      1800
ACAAGGGCCC AATGAGTCTC CCTCGGCCTT CCTAGAGAGA CTTAAGGAAG CCTATCGCAG      1860
GTACACTCCT TATGACCCTG AGGACCCAGG GCAAGAAACT AATGTGTCTA TGTCTTTCAT      1920
TTGGCAGTCT GCCCCAGACA TTGGGAGAAA GTTAGAGAGG TTAGAAGATT TAAAAAACAA      1980
GACGCTTGGA GATTTGGTTA GAGAGGCAGA AAAGATCTTT AATAAACGAG AAACCCCGGA      2040
AGAAAGAGAG GAACGTATCA GGAGAACAGA AGAGGAAAAA GAAGAACGCC GTAGGACAGA      2100
GGATGAGCAG AAAGAGAAAG AAAGAGATCG TAGGAGACAT AGAGAGATGA GCAAGCTATT      2160
GGCCACTGTC GTTAGTGGAC AGAAACAGGA TAGACAGGGA GGAGAACGAA GGAGGTCCCA      2220
ACTCGATCGC GACCAGTGTG CCTACTGCAA AGAAAAGGGG CACTGGGCTA AAGATTGTCC      2280
CAAGAAACCA CGAGGACCTC GGGGACCAAG ACCCCAGACC TCCCTCCTGA CCCTAGATGA      2340
CTAGGGAGGT CAGGGTCAGG AGCCCCCCCC TGAACCCAGG ATAACCCTCA AAGTCGGGGG      2400
GCAACCCGTC ACCTTCCTGG TAGATACTGG GGCCCAACAC TCCGTGCTGA CCCAAAATCC      2460
TGGACCCCTA AGTGATAAGT CTGCCTGGGT CCAAGGGGCT ACTGGAGGAA AGCGGTATCG      2520
CTGGACCACG GATCGCAAAG TACATCTAGC TACCGGTAAG GTCACCCACT CTTTCCTCCA      2580
TGTACCAGAC TGTCCCTATC CTCTGTTAGG AAGAGATTTG CTGACTAAAC TAAAAGCCCA      2640
AATCCACTTT GAGGGATCAG GAGCTCAGGT TATGGGACCA ATGGGGCAGC CCCTGCAAGT      2700
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TTCTCTAGGG TCCACATGGC TGTCTGATTT TCCTCAGGCC TGGGCGGAAA CCGGGGGCAT      2820
GGGACTGGCA GTTCGCCAAG CTCCTCTGAT CATACCTCTG AAAGCAACCT CTACCCCCGT      2880
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CAAGCGGGTG GAAGACATCC ACCCCACCGT GCCCAACCCT TACAACCTCT TGAGCGGGCT      3120
CCCACCGTCC CACCAGTGGT ACACTGTGCT TGATTAAAG GATGCCTTTT TCTGCCTGAG      3180
ACTCCACCCC ACCAGTCAGC CTCTCTTCGC CTTTGAGTGG AGAGATCCAG AGATGGGAAT      3240
CTCAGGACAA TTGACCTGGA CCAGACTCCC ACAGGGTTTC AAAAACAGTC CCACCCTGTT      3300
TGATGAGGCA CTGCACAGAG ACCTAGCAGA CTTCCGGATC CAGCACCCAG ACTTGATCCT      3360
GCTACAGTAC GTGGATGACT TACTGCTGGC CGCCACTTCT GAGCTAGACT GCCAACAAGG      3420
TACTCGGGCC CTGTTACAAA CCCTAGGGAA CCTCGGGTAT CGGGCCTCGG CCAAGAAAGC      3480
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CCAACAAAAG GCCTATCAAG AAATCAAGCA AGCTCTTCTA ACTGCCCCAG CCCTGGGGTT      3780
GCCAGATTTG ACTAAGCCCT TTGAACTCTT TGTCGACGAG AAGCAGGGCT ACGCCAAAGG      3840
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AGACCCAGTA GCAGCTGGGT GGCCCCCTTG CCTACGGATG GTAGCAGCCA TTGCCGTACT      3960
GACAAAGGAT GCAGGCAAGC TAACCATGGG ACAGCCACTA GTCATTCTGG CCCCCCATGC      4020
AGTAGAGGCA CTAGTCAAAC AACCCCCCGA CCGCTGGCTT TCCAACGCCC GGATGACTCA      4080
```

Figure 6b. CeB Sequence

```
CTATCAGGCC TTGCTTTTGG ACACGGACCG GGTCCAGTTC GGACCGGTGG TAGCCCTGAA    4140
CCCGGCTACG CTGCTCCCAC TGCCTGAGGA AGGGCTGCAA CACAACTGCC TTGATATCCT    4200
GGCCGAAGCC CACGGAACCC GACCCGACCT AACGGACCAG CCGCTCCCAG ACGCCGACCA    4260
CACCTGGTAC ACGGATGGAA GCAGTCTCTT ACAAGAGGGA CAGCGTAAGG CGGGAGCTGC    4320
GGTGACCACC GAGACCGAGG TAATCTGGGC TAAAGCCCTG CCAGCCGGGA CATCCGCTCA    4380
GCGGGCTGAA CTGATAGCAC TCACCCAGGC CCTAAAGATG GCAGAAGGTA AGAAGCTAAA    4440
TGTTTATACT GATAGCCGTT ATGCTTTTGC TACTGCCCAT ATCCATGGAG AAATATACAG    4500
AAGGCGTGGG TTGCTCACAT CAGAAGGCAA AGAGATCAAA AATAAAGACG AGATCTTGGC    4560
CCTACTAAAA GCCCTCTTTC TGCCCAAAAG ACTTAGCATA ATCCATTGTC CAGGACATCA    4620
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CAGCCCCTCT CTCCAAGCTC ACTTACAGGC TCTCTACTTA GTCCAGCACG AAGTCTGGAG    5640
ACCTCTGGCG GCAGCCTACC AAGAACAACT GGACCGACCG GTGGTACCTC ACCCTTACCG    5700
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GGAATGAAAG ACCCCACCTG TAGGTTTGGC AAGCTAGCTT AAGTAACGCC ATTTTGCAAG    6660
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ACAGTCGAGA ACTTGTTTAT TGCAGCTTAT AATGGTTACA AATAAAGCAA TAGCATCACA    6780
AATTTCACAA ATAAAGCATT TTTTTCACTG CATTCTAGTT GTGGTTTGTC CAAACTCATC    6840
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GTTCATCTGC TGACTGTCAA CTGTAGCATT TTTTGGGGTT ACAGTTTGAG CAGGATATTT    7380
GGTCCTGTAG TTTGCTAACA CACCCTGCAG CTCCAAAGGT TCCCCACCAA CAGCAAAAAA    7440
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TGAATGCAAG TTTAACATAG CAGTTACCCC AATAACCTCA GTTTTAACAG TAACAGCTTC    7560
CCACATCAAA ATATTTCCAC AGGTTAAGTC CTCATTTAAA TTAGGCAAAG GAATTC        7616
```

Figure 7a. HCMV+intron Sequence

```
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TAAGCTACAA CAAGGCAAGG CTTGACCGAC AATTGCATGA AGAATCTGCT TAGGGTTAGG       180
CGTTTTGCGC TGCTTCGCGA TGTACGGGCC AGATATACGC GTTGACATTG ATTATTGACT       240
AGTTATTAAT AGTAATCAAT TACGGGGTCA TTAGTTCATA GCCCATATAT GGAGTTCCGC       300
GTTACATAAC TTACGGTAAA TGGCCCGCCT GGCTGACCGC CCAACGACCC CCGCCCATTG       360
ACGTCAATAA TGACGTATGT TCCCATAGTA ACGCCAATAG GGACTTTCCA TTGACGTCAA       420
TGGGTGGACT ATTTACGGTA AACTGCCCAC TTGGCAGTAC ATCAAGTGTA TCATATGCCA       480
AGTACGCCCC CTATTGACGT CAATGACGGT AAATGGCCCG CCTGGCATTA TGCCCAGTAC       540
ATGACCTTAT GGGACTTTCC TACTTGGCAG TACATCTACG TATTAGTCAT CGCTATTACC       600
ATGGTGATGC GGTTTTGGCA GTACATCAAT GGGCGTGGAT AGCGGTTTGA CTCACGGGGA       660
TTTCCAAGTC TCCACCCCAT TGACGTCAAT GGGAGTTTGT TTTGGCACCA AAATCAACGG       720
GACTTTCCAA AATGTCGTAA CAACTCCGCC CCATTGACGC AAATGGGCGG TAGGCGTGTA       780
CGGTGGGAGG TCTATATAAG CAGAGCTCTC TGGCTAACTA GAGAACCCAC TGCTTAACTG       840
GCTTATCGAA ATGTCGACTG AGAACTTCAG GGTGAGTTTG GGGACCCTTG ATTGTTCTTT       900
CTTTTTCGCT ATTGTAAAAT TCATGTTATA TGGAGGGGGC AAAGTTTTCA GGGTGTTGTT       960
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TTCGTTAAAC TTTAGCTTGC ATTTGTAACG AATTTTTAAA TTCACTTTTG TTTATTTGTC      1140
AGATTGTAAG TACTTTCTCT AATCACTTTT TTTTCAAGGC AATCAGGGTA TATTATATTG      1200
TACTTCAGCA CAGTTTTAGA GAACAATTGT TATAATTAAA TGATAAGGTA GAATATTTCT      1260
GCATATAAAT TCTGGCTGGC GTGGAAATAT TCTTATTGGT AGAAACAACT ACATCCTGGT      1320
CATCATCCTG CCTTTCTCTT TATGGTTACA ATGATATACA CTGTTTGAGA TGAGGATAAA      1380
ATACTCTGAG TCCAAACCGG GCCCCTCTGC TAACCATGTT CATGCCTTCT TCTTTTTCCT      1440
ACAGCTCCTG GGCAACGTGC TGGTTGTTGT GCTGTCTCAT CATTTTGGCA AGAATTGGCC      1500
GCAAGCTTCT GCAGCATCGT TCTGTGTTGT CTCTGTCTGA CTGTGTTTCT GTATTTGTCT      1560
GAGAATATGG GCCAGACTGT TACCACTCCC TTAAGTTTGA CCTTAGGTCA CTGGAAAGAT      1620
GTCGAGCGGA TCGCTCACAA CCAGTCGGTA GATGTCAAGA AGAGACGTTG GGTTACCTTC      1680
TGCTCTGCAG AATGGCCAAC CTTTAACGTC GGATGGCCGC GAGACGGCAC CTTTAACCGA      1740
GACCTCATCA CCCAGGTTAA GATCAAGGTC TTTTCACCTG GCCCGCATGG ACACCCAGAC      1800
CAGGTCCCCT ACATCGTGAC CTGGGAAGCC TTGGCTTTTG ACCCCCCTCC CTGGGTCAAG      1860
CCCTTTGTAC ACCCTAAGCC TCCGCCTCCT CTTCCTCCAT CCGCCCCGTC TCTCCCCCTT      1920
GAACCTCCTC GTTCGACCCC GCCTCGATCC TCCCTTTATC CAGCCCTCAC TCCTTCTCTA      1980
GGCGCCAAAC CTAAACCTCA AGTTCTTTCT GACAGTGGGG GGCCGCTCAT CGACCTACTT      2040
ACAGAAGACC CCCCGCCTTA TAGGGACCCA AGACCACCCC CTTCCGACAG GGACGGAAAT      2100
GGTGGAGAAG CGACCCCTGC GGGAGAGGCA CCGGACCCCT CCCCAATGGC ATCTCGCCTA      2160
CGTGGGAGAC GGGAGCCCCC TGTGGCCGAC TCCACTACCT CGCAGGCATT CCCCCTCCGC      2220
GCAGGAGGAA ACGGACAGCT TCAATACTGG CCGTTCTCCT CTTCTGACCT TTACAACTGG      2280
AAAAATAATA ACCCTTCTTT TTCTGAAGAT CCAGGTAAAC TGACAGCTCT GATCGAGTCT      2340
GTTCTCATCA CCCATCAGCC CACCTGGGAC GACTGTCAGC AGCTGTTGGG GACTCTGCTG      2400
ACCGGAGAAG AAAAACAACG GGTGCTCTTA GAGGCTAGAA AGGCGGTGCG GGGCGATGAT      2460
GGGCGCCCCA CTCAACTGCC CAATGAAGTC GATGCCGCTT TTCCCCTCGA GCGCCCAGAC      2520
TGGGATTACA CCACCCAGGC AGGTAGGAAC CACCTAGTCC ACTATCGCCA GTTGCTCCTA      2580
GCGGGTCTCC AAAACGCGGG CAGAAGCCCC ACCAATTTGG CCAAGGTAAA AGGAATAACA      2640
CAAGGGCCCA ATGAGTCTCC CTCGGCCTTC CTAGAGAGAC TTAAGGAAGC CTATCGCAGG      2700
TACACTCCTT ATGACCCTGA GGACCCAGGG CAAGAAACTA ATGTGTCTAT GTCTTTCATT      2760
TGGCAGTCTG CCCCAGACAT TGGGAGAAAG TTAGAGAGGT TAGAAGATTT AAAAAACAAG      2820
ACGCTTGGAG ATTTGGTTAG AGAGGCAGAA AAGATCTTTA ATAAACGAGA AACCCCGGAA      2880
GAAAGAGAGG AACGTATCAG GAGAGAAACA GAGGAAAAAG AAGAACGCCG TAGGACAGAG      2940
GATGAGCAGA AAGAGAAAGA AAGAGATCGT AGGAGACATA GAGAGATGAG CAAGCTATTG      3000
GCCACTGTCG TTAGTGGACA GAAACAGGAT AGACAGGGAG GAGAACGAAG GAGGTCCCAA      3060
CTCGATCGCG ACCAGTGTGC CTACTGCAAA GAAAAGGGGC ACTGGGCTAA AGATTGTCCC      3120
AAGAAACCAC GAGGACCTCG GGGACCAAGA CCCCAGACCT CCCTCCTGAC CCTAGATGAC      3180
TAGGGAGGTC AGGGTCAGGA GCCCCCCCCT GAACCCAGGA TAACCCTCAA AGTCGGGGGG      3240
CAACCCGTCA CCTTCCTGGT AGATACTGGG GCCAACACT CCGTGCTGAC CCAAAATCCT      3300
GGACCCCTAA GTGATAAGTC TGCCTGGGTC CAAGGGGCTA CTGGAGGAAA GCGGTATCGC      3360
TGGACCACGG ATCGCAAAGT ACATCTAGCT ACCGGTAAGG TCACCCACTC TTTCCTCCAT      3420
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ATCCACTTTG AGGGATCAGG AGCTCAGGTT ATGGGACCAA TGGGGCAGCC CCTGCAAGTG      3540
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TCTCTAGGGT CCACATGGCT GTCTGATTTT CCTCAGGCCT GGGCGGAAAC CGGGGGCATG      3660
GGACTGGCAG TTCGCCAAGC TCCTCTGATC ATACCTCTGA AAGCAACCTC TACCCCCGTG      3720
TCCATAAAAC AATACCCCAT GTCACAAGAA GCCAGACTGG GGATCAAGCC CCACATACAG      3780
AGACTGTTGG ACCAGGGAAT ACTGGTACCC TGCCAGTCCC CCTGGAACAC GCCCCTGCTA      3840
CCCGTTAAGA AACCAGGGAC TAATGATTAT AGGCCTGTCC AGGATCTGAG AGAAGTCAAC      3900
AAGCGGGTGG AAGACATCCA CCCCACCGTG CCCAACCCTT ACAACCTCTT GAGCGGGCTC      3960
CCACCGTCCC ACCAGTGGTA CACTGTGCTT GATTTAAAGG ATGCCTTTTT CTGCCTGAGA      4020
CTCCACCCCA CCAGTCAGCC TCTCTTCGCC TTTGAGTGGA GAGATCCAGA GATGGGAATC      4080
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Figure 7b. hCMV+intron Sequence

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TCAGGACAAT TGACCTGGAC CAGACTCCCA CAGGGTTTCA AAAACAGTCC CACCCTGTTT   4140
GATGAGGCAC TGCACAGAGA CCTAGCAGAC TTCCGGATCC AGCACCCAGA CTTGATCCTG   4200
CTACAGTACG TGGATGACTT ACTGCTGGCC GCCACTTCTG AGCTAGACTG CCAACAAGGT   4260
ACTCGGGCCC TGTTACAAAC CCTAGGGAAC CTCGGGTATC GGGCCTCGGC CAAGAAAGCC   4320
CAAATTTGCC AGAAACAGGT CAAGTATCTG GGGTATCTTC TAAAAGAGGG TCAGAGATGG   4380
CTGACTGAGG CCAGAAAAGA GACTGTGATG GGGCAGCCTA CTCCGAAGAC CCCTCGACAA   4440
CTAAGGGAGT TCCTAGGGAC GGCAGGCTTC TGTCGCCTCT GGATCCCTGG GTTTGCAGAA   4500
ATGGCAGCCC CCTTGTACCC TCTCACCAAA ACGGGGACTC TGTTTAATTG GGGCCCAGAC   4560
CAACAAAAGG CCTATCAAGA AATCAAGCAA GCTCTTCTAA CTGCCCCAGC CCTGGGGTTG   4620
CCAGATTTGA CTAAGCCCTT TGAACTCTTT GTCGACGAGA AGCAGGGCTA CGCCAAAGGT   4680
GTCCTAACGC AAAAACTGGG ACCTTGGCGT CGGCCGGTGG CCTACCTGTC CAAAAAGCTA   4740
GACCCAGTAG CAGCTGGGTG GCCCCCTTGC CTACGGATGG TAGCAGCCAT TGCCGTACTG   4800
ACAAAGGATG CAGGCAAGCT AACCATGGGA CAGCCACTAG TCATTCTGGC CCCCCATGCA   4860
GTAGAGGCAC TAGTCAAACA ACCCCCCGAC CGCTGGCTTT CCAACGCCCG GATGACTCAC   4920
TATCAGGCCT TGCTTTTGGA CACGGACCGG GTCCAGTTCG GACCGGTGGT AGCCCTGAAC   4980
CCGGCTACGC TGCTCCCACT GCCTGAGGAA GGGCTGCAAC ACAACTGCCT TGATATCCTG   5040
GCCGAAGCCC ACGGAACCCG ACCCGACCTA ACGGACCAGC CGCTCCCAGA CGCCGACCAC   5100
ACCTGGTACA CGGATGGAAG CAGTCTCTTA CAAGAGGGAC AGCGTAAGGC GGGAGCTGCG   5160
GTGACCACCG AGACCGAGGT AATCTGGGCT AAAGCCCTGC CAGCCGGGAC ATCCGCTCAG   5220
CGGGCTGAAC TGATAGCACT CACCCAGGCC CTAAAGATGG CAGAAGGTAA GAAGCTAAAT   5280
GTTTATACTG ATAGCCGTTA TGCTTTTGCT ACTGCCCATA TCCATGGAGA AATATACAGA   5340
AGGCGTGGGT TGCTCACATC AGAAGGCAAA GAGATCAAAA ATAAAGACGA GATCTTGGCC   5400
CTACTAAAAG CCCTCTTTCT GCCCAAAAGA CTTAGCATAA TCCATTGTCC AGGACATCAA   5460
AAGGGACACA GCGCCGAGGC TAGAGGCAAC CGGATGGCTG ACCAAGCGGC CCGAAAGGCA   5520
GCCATCACAG AGACTCCAGA CACCTCTACC CTCCTCATAG AAAATTCATC ACCCTACACC   5580
TCAGAACATT TTCATTACAC AGTGACTGAT ATAAAGGACC TAACCAAGTT GGGGGCCATT   5640
TATGATAAAA CAAAGAAGTA TTGGGTCTAC CAAGGAAAAC CTGTGATGCC TGACCAGTTT   5700
ACTTTTGAAT TATTAGACTT TCTTCATCAG CTGACTCACC TCAGCTTCTC AAAAATGAAG   5760
GCTCTCCTAG AGAGAAGCCA CAGTCCCTAC TACATGCTGA ACCGGGATCG AACACTCAAA   5820
AATATCACTG AGACCTGCAA AGCTTGTGCA CAAGTCAACG CCAGCAAGTC TGCCGTTAAA   5880
CAGGGAACTA GGGTCCGCGG GCATCGGCCC GGCACTCATT GGGAGATCGA TTTCACCGAG   5940
ATAAAGCCCG GATTGTATGG CTATAAATAT CTTCTAGTTT TTATAGATAC CTTTTCTGGC   6000
TGGATAGAAG CCTTCCCAAC CAAGAAAGAA ACCGCCAAGG TCGTAACCAA GAAGCTACTA   6060
GAGGAGATCT TCCCCAGGTT CGGCATGCCT CAGGTATTGG GAACTGACAA TGGGCCTGCC   6120
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TGTGCATACA GACCCCAAAG CTCAGGCCAG GTAGAAGAA TGAATAGAAC CATCAAGGAG    6240
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GCCCTGTACC GAGCCCGCAA CACGCCGGGC CCCCATGGCC TCACCCCATA TGAGATCTTA   6360
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AGCCCCTCTC TCCAAGCTCA CTTACAGGCT CTCTACTTAG TCCAGCACGA AGTCTGGAGA   6480
CCTCTGGCGG CAGCCTACCA AGAACAACTG GACCGACCGG TGGTACCTCA CCCTTACCGA   6540
GTCGGCGACA CAGTGTGGGT CCGCCGACAC CAGACTAAGA ACCTAGAACC TCGCTGGAAA   6600
GGACCTTACA CAGTCCTGCT GACCACCCCC ACCGCCCTCA AAGTAGACGG CATCGCAGCT   6660
TGGATACACG CCGCCCACGT GAAGGCTGCC GACCCCGGGG GTGGACCATC CTCTAGACTG   6720
ACATGGCGCG TTCAACGCTC TCAAAACCCC TTAAAAATAA GGTTAACCCG CGAGGCCCCC   6780
TAATCCCTT AATTCTTCTG ATGCTCAGAG GGGTCAGTAC TGCTTCGCCC GGCTCCAGTG    6840
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CAATTCGTAC GAAAACAGGA GAAATCATTT CGGCAGTACA TATTGAAGCG TATATAGGAC   7020
GAGTAACTGT TTGTGCAGAA GCCATTGCGA TTGGTAGTGC AGTTTCGAAT GGACAAAAGG   7080
ATTTTGACAC GATTGTAGCT GTTAGACACC CTTATTCTGA CGAAGTAGAT AGAAGTATTC   7140
GAGTGGTAAG TCCTTGTGGT ATGTGTAGGG AGTTGATTTC AGACTATGCA CCAGATTGTT   7200
TTGTGTTAAT AGAAATGAAT GGCAAGTTAG TCAAAACTAC GATTGAAGAA CTCATTCCAC   7260
TCAAATATAC CCGAAATTAA AAGTTTTACC ACCAAGCTTA TCGAATTC              7308
```

Figure 8a. hCMV+intronkaSD Sequence

```
AGATCTCCCG ATCCCCTATG GTCGACTCTC AGTACAATCT GCTCTGATGC CGCATAGTTA        60
AGCCAGTATC TGCTCCCTGC TTGTGTGTTG GAGGTCGCTG AGTAGTGCGC GAGCAAAATT       120
TAAGCTACAA CAAGGCAAGG CTTGACCGAC AATTGCATGA AGAATCTGCT TAGGGTTAGG       180
CGTTTTGCGC TGCTTCGCGA TGTACGGGCC AGATATACGC GTTGACATTG ATTATTGACT       240
AGTTATTAAT AGTAATCAAT TACGGGGTCA TTAGTTCATA GCCCATATAT GGAGTTCCGC       300
GTTACATAAC TTACGGTAAA TGGCCCGCCT GGCTGACCGC CCAACGACCC CCGCCCATTG       360
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AGTACGCCCC CTATTGACGT CAATGACGGT AAATGGCCCG CCTGGCATTA TGCCCAGTAC       540
ATGACCTTAT GGGACTTTCC TACTTGGCAG TACATCTACG TATTAGTCAT CGCTATTACC       600
ATGGTGATGC GGTTTTGGCA GTACATCAAT GGGCGTGGAT AGCGGTTTGA CTCACGGGGA       660
TTTCCAAGTC TCCACCCCAT TGACGTCAAT GGGAGTTTGT TTTGGCACCA AAATCAACGG       720
GACTTTCCAA AATGTCGTAA CAACTCCGCC CCATTGACGC AAATGGGCGG TAGGCGTGTA       780
CGGTGGGAGG TCTATATAAG CAGAGCTCTC TGGCTAACTA GAGAACCCAC TGCTTAACTG       840
GCTTATCGAA ATGTCGACTG AGAACTTCAG GGTGAGTTTG GGGACCCTTG ATTGTTCTTT       900
CTTTTTCGCT ATTGTAAAAT TCATGTTATA TGGAGGGGGC AAAGTTTTCA GGGTGTTGTT       960
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CTTTCTACTC TGTTGACAAC CATTGTCTCC TCTTATTTTC TTTTCATTTT CTGTAACTTT      1080
TTCGTTAAAC TTTAGCTTGC ATTTGTAACG AATTTTTAAA TTCACTTTTG TTTATTTGTC      1140
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TACTTCAGCA CAGTTTTAGA GAACAATTGT TATAATTAAA TGATAAGGTA GAATATTTCT      1260
GCATATAAAT TCTGGCTGGC GTGGAAATAT TCTTATTGGT AGAAACAACT ACATCCTGGT      1320
CATCATCCTG CCTTTCTCTT TATGGTTACA ATGATATACA CTGTTTGAGA TGAGGATAAA      1380
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TGCTCTGCAG AATGGCCAAC CTTTAACGTC GGATGGCCGC GAGACGGCAC CTTTAACCGA      1740
GACCTCATCA CCCAGGTTAA GATCAAGGTC TTTTCACCTG GCCCGCATGG ACACCCAGAC      1800
CAGGTCCCCT ACATCGTGAC CTGGGAAGCC TTGGCTTTTG ACCCCCCTCC CTGGGTCAAG      1860
CCCTTTGTAC ACCCTAAGCC TCCGCCTCCT CTTCCTCCAT CCGCCCCGTC TCTCCCCCTT      1920
GAACCTCCTC GTTCGACCCC GCCTCGATCC TCCCTTTATC CAGCCCTCAC TCCTTCTCTA      1980
GGCGCCAAAC CTAAACCTCA AGTTCTTTCT GACAGTGGGG GGCCGCTCAT CGACCTACTT      2040
ACAGAAGACC CCCCGCCTTA TAGGGACCCA AGACCACCCC CTTCCGACAG GGACGGAAAT      2100
GGTGGAGAAG CGACCCCTGC GGGAGAGGCA CCGGACCCCT CCCCAATGGC ATCTCGCCTA      2160
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GCGGGTCTCC AAAACGCGGG CAGAAGCCCC ACCAATTTGG CCAAGGTAAA AGGAATAACA      2640
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GAAAGAGAGG AACGTATCAG GAGAGAAACA GAGGAAAAAG AAGAACGCCG. TAGGACAGAG      2940
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CAACCCGTCA CCTTCCTGGT AGATACTGGG GCCCAACACT CCGTGCTGAC CCAAAATCCT      3300
GGACCCCTAA GTGATAAGTC TGCCTGGGTC CAAGGGGCTA CTGGAGGAAA GCGGTATCGC      3360
TGGACCACGG ATCGCAAAGT AACTCACTGT AAGCGGTGGG AGCGGGGGTG CGGGGCACAT      ....
```

Figure 8a. hCMV+intronkaSD Sequence

```
AGATCTCCCG ATCCCCTATG GTCGACTCTC AGTACAATCT GCTCTGATGC CGCATAGTTA        60
AGCCAGTATC TGCTCCCTGC TTGTGTGTTG GAGGTCGCTG AGTAGTGCGC GAGCAAAATT       120
TAAGCTACAA CAAGGCAAGG CTTGACCGAC AATTGCATGA AGAATCTGCT TAGGGTTAGG       180
CGTTTTGCGC TGCTTCGCGA TGTACGGGCC AGATATACGC GTTGACATTG ATTATTGACT       240
AGTTATTAAT AGTAATCAAT TACGGGGTCA TTAGTTCATA GCCCATATAT GGAGTTCCGC       300
GTTACATAAC TTACGGTAAA TGGCCCGCCT GGCTGACCGC CCAACGACCC CCGCCCATTG       360
ACGTCAATAA TGACGTATGT TCCCATAGTA ACGCCAATAG GGACTTTCCA TTGACGTCAA       420
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AGTACGCCCC CTATTGACGT CAATGACGGT AAATGGCCCG CCTGGCATTA TGCCCAGTAC       540
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CGGTGGGAGG TCTATATAAG CAGAGCTCTC TGGCTAACTA GAGAACCCAC TGCTTAACTG       840
GCTTATCGAA ATGTCGACTG AGAACTTCAG GGTGAGTTTG GGGACCCTTG ATTGTTCTTT       900
CTTTTTCGCT ATTGTAAAAT TCATGTTATA TGGAGGGGGC AAAGTTTTCA GGGTGTTGTT       960
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CTTTCTACTC TGTTGACAAC CATTGTCTCC TCTTATTTTC TTTTCATTTT CTGTAACTTT      1080
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AGATTGTAAG TACTTTCTCT AATCACTTTT TTTTCAAGGC AATCAGGGTA TATTATATTG      1200
TACTTCAGCA CAGTTTTAGA GAACAATTGT TATAATTAAA TGATAAGGTA GAATATTTCT      1260
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GACCTCATCA CCCAGGTTAA GATCAAGGTC TTTTCACCTG GCCCGCATGG ACACCCAGAC      1800
CAGGTCCCCT ACATCGTGAC CTGGGAAGCC TTGGCTTTTG ACCCCCCTCC CTGGGTCAAG      1860
CCCTTTGTAC ACCCTAAGCC TCCGCCTCCT CTTCCTCCAT CCGCCCCGTC TCTCCCCCTT      1920
GAACCTCCTC GTTCGACCCC GCCTCGATCC TCCCTTTATC CAGCCCTCAC TCCTTCTCTA      1980
GGCGCCAAAC CTAAACCTCA AGTTCTTTCT GACAGTGGGG GGCCGCTCAT CGACCTACTT      2040
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TGGACCACGG ATCGCAAAGT AACTCACTGT AAGCGGTGGG AGCGGGGGTG CGGGGCACAT      ....
```

Figure 8a. hCMV+intronkaSD Sequence

```
AGATCTCCCG ATCCCCTATG GTCGACTCTC AGTACAATCT GCTCTGATGC CGCATAGTTA        60
AGCCAGTATC TGCTCCCTGC TTGTGTGTTG GAGGTCGCTG AGTAGTGCGC GAGCAAAATT       120
TAAGCTACAA CAAGGCAAGG CTTGACCGAC AATTGCATGA AGAATCTGCT TAGGGTTAGG       180
CGTTTTGCGC TGCTTCGCGA TGTACGGGCC AGATATACGC GTTGACATTG ATTATTGACT       240
AGTTATTAAT AGTAATCAAT TACGGGGTCA TTAGTTCATA GCCCATATAT GGAGTTCCGC       300
GTTACATAAC TTACGGTAAA TGGCCCGCCT GGCTGACCGC CCAACGACCC CCGCCCATTG       360
ACGTCAATAA TGACGTATGT TCCCATAGTA ACGCCAATAG GGACTTTCCA TTGACGTCAA       420
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TTTCCAAGTC TCCACCCCAT TGACGTCAAT GGGAGTTTGT TTTGGCACCA AAATCAACGG       720
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CGGTGGGAGG TCTATATAAG CAGAGCTCTC TGGCTAACTA GAGAACCCAC TGCTTAACTG       840
GCTTATCGAA ATGTCGACTG AGAACTTCAG GGTGAGTTTG GGGACCCTTG ATTGTTCTTT       900
CTTTTTCGCT ATTGTAAAAT TCATGTTATA TGGAGGGGGC AAAGTTTTCA GGGTGTTGTT       960
TAGAATGGGA AGATGTCCCT TGTATCACCA TGGACCCTCA TGATAATTTT GTTTCTTTCA      1020
CTTTCTACTC TGTTGACAAC CATTGTCTCC TCTTATTTTC TTTTCATTTT CTGTAACTTT      1080
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AGATTGTAAG TACTTTCTCT AATCACTTTT TTTTCAAGGC AATCAGGGTA TATTATATTG      1200
TACTTCAGCA CAGTTTTAGA GAACAATTGT TATAATTAAA TGATAAGGTA GAATATTTCT      1260
GCATATAAAT TCTGGCTGGC GTGGAAATAT TCTTATTGGT AGAAACAACT ACATCCTGGT      1320
CATCATCCTG CCTTTCTCTT TATGGTTACA ATGATATACA CTGTTTGAGA TGAGGATAAA      1380
ATACTCTGAG TCCAAACCGG GCCCCTCTGC TAACCATGTT CATGCCTTCT TCTTTTTCCT      1440
ACAGCTCCTG GGCAACGTGC TGGTTGTTGT GCTGTCTCAT CATTTTGGCA AGAATTGGCC      1500
GCAAGCTTCT GCAGCATCGT TCTGTGTTGT CTCTGTCTGA CTGTGTTTCT GTATTTGTCT      1560
GAGAATATGG GCCAGACTGT TACCACTCCC TTAAGTTTGA CCTTAGGTCA CTGGAAAGAT      1620
GTCGAGCGGA TCGCTCACAA CCAGTCGGTA GATGTCAAGA AGAGACGTTG GGTTACCTTC      1680
TGCTCTGCAG AATGGCCAAC CTTTAACGTC GGATGGCCGC GAGACGGCAC CTTTAACCGA      1740
GACCTCATCA CCCAGGTTAA GATCAAGGTC TTTTCACCTG GCCCGCATGG ACACCCAGAC      1800
CAGGTCCCCT ACATCGTGAC CTGGGAAGCC TTGGCTTTTG ACCCCCCTCC CTGGGTCAAG      1860
CCCTTTGTAC ACCCTAAGCC TCCGCCTCCT CTTCCTCCAT CCGCCCCGTC TCTCCCCCTT      1920
GAACCTCCTC GTTCGACCCC GCCTCGATCC TCCCTTTATC CAGCCCTCAC TCCTTCTCTA      1980
GGCGCCAAAC CTAAACCTCA AGTTCTTTCT GACAGTGGGG GGCCGCTCAT CGACCTACTT      2040
ACAGAAGACC CCCCGCCTTA TAGGGACCCA AGACCACCCC CTTCCGACAG GGACGGAAAT      2100
GGTGGAGAAG CGACCCCTGC GGGAGAGGCA CCGGACCCCT CCCCAATGGC ATCTCGCCTA      2160
CGTGGGAGAC GGGAGCCCCC TGTGGCCGAC TCCACTACCT CGCAGGCATT CCCCCTCCGC      2220
GCAGGAGGAA ACGGACAGCT TCAATACTGG CCGTTCTCCT CTTCTGACCT TTACAACTGG      2280
AAAAATAATA ACCCTTCTTT TTCTGAAGAT CCAGGTAAAC TGACAGCTCT GATCGAGTCT      2340
GTTCTCATCA CCCATCAGCC CACCTGGGAC GACTGTCAGC AGCTGTTGGG GACTCTGCTG      2400
ACCGGAGAAG AAAAACAACG GGTGCTCTTA GAGGCTAGAA AGGCGGTCAG GGGCGATGAT      2460
GGGCGCCCCA CTCAACTGCC CAATGAAGTC GATGCCGCTT TTCCCCTCGA GCGCCCAGAC      2520
TGGGATTACA CCACCCAGGC AGGACGCAAC CACCTAGTCC ACTATCGCCA GTTGCTCCTA      2580
GCGGGTCTCC AAAACGCGGG CAGAAGCCCC ACCAATTTGG CCAAGGTAAA AGGAATAACA      2640
CAAGGGCCCA ATGAGTCTCC CTCGGCCTTC CTAGAGAGAC TTAAGGAAGC CTATCGCAGG      2700
TACACTCCTT ATGACCCTGA GGACCCAGGG CAAGAAACTA ATGTGTCTAT GTCTTTCATT      2760
TGGCAGTCTG CCCCAGACAT TGGGAGAAAG TTAGAGAGGT TAGAAGATTT AAAAAACAAG      2820
ACGCTTGGAG ATTTGGTTAG AGAGGCAGAA AAGATCTTTA ATAAACGAGA AACCCCGGAA      2880
GAAAGAGAGG AACGTATCAG GAGAGAAACA GAGGAAAAAG AAGAACGCCG. TAGGACAGAG      2940
GATGAGCAGA AAGAGAAAGA AAGAGATCGT AGGAGACATA GAGAGATGAG CAAGCTATTG      3000
GCCACTGTCG TTAGTGGACA GAAACAGGAT AGACAGGGAG GAGAACGAAG GAGGTCCCAA      3060
CTCGATCGCG ACCAGTGTGC CTACTGCAAA GAAAAGGGGC ACTGGGCTAA AGATTGTCCC      3120
AAGAAACCAC GAGGACCTCG GGGACCAAGA CCCCAGACCT CCCTCCTGAC CCTAGATGAC      3180
TAGGGAGGTC AGGGTCAGGA GCCCCCCCCT GAACCCAGGA TAACCCTCAA AGTCGGGGGG      3240
CAACCCGTCA CCTTCCTGGT AGATACTGGG GCCCAACACT CCGTGCTGAC CCAAAATCCT      3300
GGACCCCTAA GTGATAAGTC TGCCTGGGTC CAAGGGGCTA CTGGAGGAAA GCGGTATCGC      3360
TGGACCACGG ATCGCAAAGT AACTCACTGT AAGCGGTGGG AGCGGGGGTG CGGGGCACAT      3420
GTACCAGACT GTCCCTATCC TCTGTTAGGA AGAGATTTGC TGACTAAACT AAAAGCCCAA      3480
ATCCACTTTG AGGGATCAGG AGCTCAGGTT ATGGGACCAA TGGGGCAGCC CCTGCAAGTG      3540
TTGACCCTAA ATATAGAAGA TGAGCATCGG CTACATGAGA CCTCAAAAGA GCCAGATGTT      3600
TCTCTAGGGT CCACATGGCT GTCTGATTTT CCTCAGGCCT GGGCGGAAAC CGGGGGCATG      3660
GGACTGGCAG TTCGCCAAGC TCCTCTGATC ATACCTCTGA AAGCAACCTC TACCCCCGTG      3720
TCCATAAAAC AATACCCCAT GTCACAAGAA GCCAGACTGG GGATCAAGCC CCACATACAG      3780
AGACTGTTGG ACCAGGGAAT ACTGGTACCC TGCCAGTCCC CCTGGAACAC GCCCCTGCTA      3840
CCCGTTAAGA AACCAGGGAC TAATGATTAT AGGCCTGTCC AGGATCTGAG AGAAGTCAAC      3900
AAGCGGGTGG AAGACATCCA CCCCACCGTG CCCAACCCTT ACAACCTCTT GAGCGGGCTC      3960
CCACCGTCCC ACCAGTGGTA CACTGTGCTT GATTTAAAGG ATGCCTTTTT CTGCCTGAGA      4020
CTCCACCCCA CCAGTCAGCC TCTCTTCGCC TTTGAGTGGA GAGATCCAGA GATGGGAATC      4080
```

Figure 8b. hCMV+intronkaSD Sequence

```
TCAGGACAAT  TGACCTGGAC  CAGACTCCCA  CAGGGTTTCA  AAAACAGTCC  CACCCTGTTT      4140
GATGAGGCAC  TGCACAGAGA  CCTAGCAGAC  TTCCGGATCC  AGCACCCAGA  CTTGATCCTG      4200
CTACAGTACG  TGGATGACTT  ACTGCTGGCC  GCCACTTCTG  AGCTAGACTG  CCAACAAGGT      4260
ACTCGGGCCC  TGTTACAAAC  CCTAGGGAAC  CTCGGGTATC  GGGCCTCGGC  CAAGAAAGCC      4320
CAAATTTGCC  AGAAACAGGT  CAAGTATCTG  GGGTATCTTC  TAAAAGAGGG  TCAGAGATGG      4380
CTGACTGAGG  CCAGAAAAGA  GACTGTGATG  GGGCAGCCTA  CTCCGAAGAC  CCCTCGACAA      4440
CTAAGGGAGT  TCCTAGGGAC  GGCAGGCTTC  TGTCGCCTCT  GGATCCCTGG  GTTTGCAGAA      4500
ATGGCAGCCC  CCTTGTACCC  TCTCACCAAA  ACGGGGACTC  TGTTTAATTG  GGGCCCAGAC      4560
CAACAAAAGG  CCTATCAAGA  AATCAAGCAA  GCTCTTCTAA  CTGCCCCAGC  CCTGGGGTTG      4620
CCAGATTTGA  CTAAGCCCTT  TGAACTCTTT  GTCGACGAGA  AGCAGGGCTA  CGCCAAAGGT      4680
GTCCTAACGC  AAAAACTGGG  ACCTTGGCGT  CGGCCGGTGG  CCTACCTGTC  CAAAAAGCTA      4740
GACCCAGTAG  CAGCTGGGTG  GCCCCCTTGC  CTACGGATGG  TAGCAGCCAT  TGCCGTACTG      4800
ACAAAGGATG  CAGGCAAGCT  AACCATGGGA  CAGCCACTAG  TCATTCTGGC  CCCCCATGCA      4860
GTAGAGGCAC  TAGTCAAACA  ACCCCCCGAC  CGCTGGCTTT  CCAACGCCCG  GATGACTCAC      4920
TATCAGGCCT  TGCTTTTGGA  CACGGACCGG  GTCCAGTTCG  GACCGGTGGT  AGCCCTGAAC      4980
CCGGCTACGC  TGCTCCCACT  GCCTGAGGAA  GGGCTGCAAC  ACAACTGCCT  TGATATCCTG      5040
GCCGAAGCCC  ACGGAACCCG  ACCCGACCTA  ACGGACCAGC  CGCTCCCAGA  CGCCGACCAC      5100
ACCTGGTACA  CGGATGGAAG  CAGTCTCTTA  CAAGAGGGAC  AGCGTAAGGC  GGGAGCTGCG      5160
GTGACCACCG  AGACCGAGGT  AATCTGGGCT  AAAGCCCTGC  CAGCCGGGAC  ATCCGCTCAG      5220
CGGGCTGAAC  TGATAGCACT  CACCCAGGCC  CTAAAGATGG  CAGAAGGTAA  GAAGCTAAAT      5280
GTTTATACTG  ATAGCCGTTA  TGCTTTTGCT  ACTGCCCATA  TCCATGGAGA  AATATACAGA      5340
AGGCGTGGGT  TGCTCACATC  AGAAGGCAAA  GAGATCAAAA  ATAAAGACGA  GATCTTGGCC      5400
CTACTAAAAG  CCCTCTTTCT  GCCCAAAAGA  CTTAGCATAA  TCCATTGTCC  AGGACATCAA      5460
AAGGGACACA  GCGCCGAGGC  TAGAGGCAAC  CGGATGGCTG  ACCAAGCGGC  CCGAAAGGCA      5520
GCCATCACAG  AGACTCCAGA  CACCTCTACC  CTCCTCATAG  AAAATTCATC  ACCCTACACC      5580
TCAGAACATT  TTCATTACAC  AGTGACTGAT  ATAAAGGACC  TAACCAAGTT  GGGGGCCATT      5640
TATGATAAAA  CAAAGAAGTA  TTGGGTCTAC  CAAGGAAAAC  CTGTGATGCC  TGACCAGTTT      5700
ACTTTTGAAT  TATTAGACTT  TCTTCATCAG  CTGACTCACC  TCAGCTTCTC  AAAAATGAAG      5760
GCTCTCCTAG  AGAGAAGCCA  CAGTCCCTAC  TACATGCTGA  ACCGGGATCG  AACACTCAAA      5820
AATATCACTG  AGACCTGCAA  AGCTTGTGCA  CAAGTCAACG  CCAGCAAGTC  TGCCGTTAAA      5880
CAGGGAACTA  GGGTCCGCGG  GCATCGGCCC  GGCACTCATT  GGGAGATCGA  TTTCACCGAG      5940
ATAAAGCCCG  GATTGTATGG  CTATAAATAT  CTTCTAGTTT  TTATAGATAC  CTTTTCTGGC      6000
TGGATAGAAG  CCTTCCCAAC  CAAGAAAGAA  ACCGCCAAGG  TCGTAACCAA  GAAGCTACTA      6060
GAGGAGATCT  TCCCCAGGTT  CGGCATGCCT  CAGGTATTGG  GAACTGACAA  TGGGCCTGCC      6120
TTCGTCTCCA  AGGTGAGTCA  GACAGTGGCC  GATCTGTTGG  GGATTGATTG  GAAATTACAT      6180
TGTGCATACA  GACCCCAAAG  CTCAGGCCAG  GTAGAAAGAA  TGAATAGAAC  CATCAAGGAG      6240
ACTTTAACTA  AATTAACGCT  TGCAACTGGC  TCTAGAGACT  GGGTGCTCCT  ACTCCCCTTA      6300
GCCCTGTACC  GAGCCCGCAA  CACGCCGGGC  CCCCATGGCC  TCACCCCATA  TGAGATCTTA      6360
TATGGGCAC  CCCCGCCCCT  TGTAAACTTC  CCTGACCCTG  ACATGACAAG  AGTTACTAAC      6420
AGCCCCTCTC  TCCAAGCTCA  CTTACAGGCT  CTCTACTTAG  TCCAGCACGA  AGTCTGGAGA      6480
CCTCTGGCGG  CAGCCTACCA  AGAACAACTG  GACCGACCGG  TGGTACCTCA  CCCTTACCGA      6540
GTCGGCGACA  CAGTGTGGGT  CCGCCGACAC  CAGACTAAGA  ACCTAGAACC  TCGCTGGAAA      6600
GGACCTTACA  CAGTCCTGCT  GACCACCCCC  ACCGCCCTCA  AAGTAGACGG  CATCGCAGCT      6660
TGGATACACG  CCGCCCACGT  GAAGGCTGCC  GACCCCGGGG  GTGGACCATC  CTCTAGACTG      6720
ACATGGCGCG  TTCAACGCTC  TCAAAACCCC  TTAAAAATAA  GGTTAACCCG  CGAGGCCCCC      6780
TAATCCCCTT  AATTCTTCTG  ATGCTCAGAG  GGGTCAGTAC  TGCTTCGCCC  GGCTCCAGTG      6840
CGGCCCAGCC  GGCCACCATG  AAAACATTTA  ACATTTCTCA  ACAAGATCTA  GAATTAGTAG      6900
AAGTAGCGAC  AGAGAAGATT  ACAATGCTTT  ATGAGGATAA  TAAACATCAT  GTGGGAGCGG      6960
CAATTCGTAC  GAAAACAGGA  GAAATCATTT  CGGCAGTACA  TATTGAAGCG  TATATAGGAC      7020
GAGTAACTGT  TTGTGCAGAA  GCCATTGCGA  TTGGTAGTGC  AGTTTCGAAT  GGACAAAAGG      7080
ATTTTGACAC  GATTGTAGCT  GTTAGACACC  CTTATTCTGA  CGAAGTAGAT  AGAAGTATTC      7140
GAGTGGTAAG  TCCTTGTGGT  ATGTGTAGGG  AGTTGATTTC  AGACTATGCA  CCAGATTGTT      7200
TTGTGTTAAT  AGAAATGAAT  GGCAAGTTAG  TCAAAACTAC  GATTGAAGAA  CTCATTCCAC      7260
TCAAATATAC  CCGAAATTAA  AAGTTTTACC  ACCAAGCTTA  TCGAATTC                    7308
```

Figure 9a. FBdelPASAF Sequence

```
CATATGCGGT GTGAAATACC GCACAGATGC GTAAGGAGAA AATACCGCAT CAGGCGCCAT     60
TCGCCATTCA GGCTGCGCAA CTGTTGGGAA GGGCGATCGG TGCGGGCCTC TTCGCTATTA    120
CGCCAGCTGG CGAAGGGGG ATGTGCTGCA AGGCGATTAA GTTGGGTAAC GCCAGGGTTT    180
TCCCAGTCAC GACGTTGTAA AACGACGGCC AGTGAATTCC GATTAGTTCA ATTTGTTAAA    240
GACAGGATCT CAGTAGTCCA GGCTTTAGTC CTGACTCAAC AATACCACCA GCTAAAACCA    300
CTAGAATACG AGCCACAATA AATAAAGAT TTTATTTAGT TTCCAGAAAA AGGGGGGAAT    360
GAAAGACCCC ACCAAATTGC TTAGCCTGAT AGCCGCAGTA ACGCCATTTT GCAAGGCATG    420
GAAAAATACC AAACCAAGAA TAGAGAAGTT CAGATCAAGG GCGGGTACAC GAAAACAGCT    480
AACGTTGGGC CAAACAGGAT ATCTGCGGTG AGCAGTTTCG GCCCCGGCCC GGGGCCAAGA    540
ACAGATGGTC ACCGCGGTTC GGCCCCGGCC CGGGGCCAAG AACAGATGGT CCCCAGATAT    600
GGCCCAACCC TCAGCAGTTT CTTAAGACCC ATCAGATGTT TCCAGGCTCC CCCAAGGACC    660
TGAAATGACC CTGTGCCTTA TTTGAATTAA CCAATCAGCC TGCTTCTCGC TTCTGTTCGC    720
GCGCTTCTGC TTCCCGAGCT CTATAAAAGA GCTCACAACC CCTCACTCGG CGCGCCAGTC    780
CTCCGATAGA CTGAGTCGCC CGGGTACCCG TGTATCCAAT AAATCCTCTT GCTGTTGCAT    840
CCGACTCGTG GTCTCGCTGT TCCTTGGGAG GGTCTCCTCA GAGTGATTGA CTACCCGTCT    900
CGGGGGTCTT TCATTTGGGG GCTCGTCCGG GATCTGGAGA CCCCTGCCCA GGGACCACCG    960
ACCCACCACC GGGAGGTAAG CTGGCCAAGA TCTTATATGG GGCACCCCG CCCCTTGTAA   1020
ACTTCCCTGA CCCTGACATG ACCAGAGTTA CTAACAGCCC CTCTCTCCAA GCTCACTTAC   1080
AGGCTCTCTA CTTAGTCCAG CACGAAGTTT GGAGACCACT GGCGGCAGCT TACCAAGAAC   1140
AACTGGACCG GCCGGTGGTG CCTCACCCTT ACCGGGTCGG CGACACAGTG TGGGTCCGCC   1200
GACATCAAAC CAAGAACCTA GAACCTCGCT GGAAAGGACC TTACACAGTC CTGCTGACCA   1260
CCCCCACCGC CCTCAAAGTA GACGGTATCG CAGCTTGGAT ACACGCAGCC CACGTAAAGG   1320
CGGCCGACAC CGAGAGTGGA CCATCCTCTG GACGGACATG GCGCGTTCAA CGCTCTCAAA   1380
ACCCCCTCAA GATAAGATTA ACCCGTGGAA GCCCTTAATA GTCATGGGAG TCCTGTTAGG   1440
AGTAGGGATG GCAGAGAGCC CCCATCAGGT CTTTAATGTA ACCTGGAGAG TCACCAACCT   1500
GATGACTGGG CGTACCGCCA ATGCCACCTC CCTCCTGGGA ACTGTACAAG ATGCCTTCCC   1560
AAAATTATAT TTTGATCTAT GTGATCTGGT CGGAGAGGAG TGGGACCCTT CAGACCAGGA   1620
ACCGTATGTC GGGTATGGCT GCAAGTACCC CGCAGGGAGA CAGCGGACCC GGACTTTTGA   1680
CTTTTACGTG TGCCCTGGGC ATACCGTAAA GTCGGGGTGT GGGGGACCAG GAGAGGGCTA   1740
CTGTGGTAAA TGGGGGTGTG AAACCACCGG ACAGGCTTAC TGGAAGCCCA CATCATCGTG   1800
GGACCTAATC TCCCTTAAGC GCGGTAACAC CCCCTGGGAC ACGGGATGCT CTAAAGTTGC   1860
CTGTGGCCCC TGCTACGACC TCTCCAAAGT ATCCAATTCC TTCCAAGGGG CTACTCGAGG   1920
GGGCAGATGC AACCCTCTAG TCCTAGAATT CACTGATGCA GGAAAAAAGG CTAACTGGGA   1980
CGGGCCCAAA TCGTGGGGAC TGAGACTGTA CCGGACAGGA ACAGATCCTA TTACCATGTT   2040
CTCCCTGACC CGGCAGGTCC TTAATGTGGG ACCCCGAGTC CCCATAGGGC CCAACCCAGT   2100
ATTACCCGAC CAAAGACTCC CTTCCTCACC AATAGAGATT GTACCGGCTC CACAGCCACC   2160
TAGCCCCCTC AATACCAGTT ACCCCCCTTC CACTACCAGT ACACCCTCAA CCTCCCCTAC   2220
AAGTCCAAGT GTCCCACAGC CACCCCGAGG AACTGGAGAT AGACTACTAG CTCTAGTCAA   2280
AGGAGCCTAT CAGGCGCTTA ACCTCACCAA TCCCGACAAG ACCCAAGAAT GTTGGCTGTG   2340
CTTAGTGTCG GGACCTCCTT ATTACGAAGG AGTAGCGGTC GTGGGCACTT ATACCAATCA   2400
TTCCACCGCT CCGGCCAACT GTACGGCCAC TTCCCAACAT AAGCTTACCC TATCTGAAGT   2460
GACAGGACAG GGCCTATGCA TGGGGGCAGT ACCTAAAACT CACCAGGCCT TATGTAACAC   2520
CACCCAAAGC GCCGGCTCAG GATCCTACTA CCTTGCAGCA CCCGCCGGAA CAATGTGGGC   2580
TTGCAGCACT GGATTGACTC CCTGCTTGTC CACCACGGTG CTCAATCTAA CCACAGATTA   2640
TTGTGTATTA GTTGAACTCT GGCCCAGAGT AATTTACCAC TCCCCCGATT ATATGTATGG   2700
TCAGCTTGAA CAGCGTACCA AATATAAAAG AGAGCCAGTA TCATTGACCC TGGCCCTTCT   2760
ACTAGGAGGA TTAACCATGG GAGGGATTGC AGCTGGAATA GGGACGGGGA CCACTGCCTT   2820
AATTAAAACC CAGCAGTTTG AGCAGCTTCA TGCCGCTATC CAGACAGACC TCAACGAAGT   2880
CGAAAAGTCA ATTACCAACC TAGAAAAGTC ACTGACCTCG TTGTCTGAAG TAGTCCTACA   2940
GAACCGCAGA GGCCTAGATT TGCTATTCCT AAAGGAGGGA GGTCTCTGCG CAGCCCTAAA   3000
AGAAGAATGT TGTTTTTATG CAGACCACAC GGGGCTAGTG AGAGACAGCA TGGCCAAATT   3060
AAGAGAAAGG CTTAATCAGA GACAAAAACT ATTTGAGACA GGCCAAGGAT GGTTCGAAGG   3120
GCTGTTTAAT AGATCCCCCT GGTTTACCAC CTTAATCTCC ACCATCATGG GACCTCTAAT   3180
AGTACTCTTA CTGATCTTAC TCTTTGGACC TTGCATTCTC AATCGATTAG TTCAATTTGT   3240
TAAAGACAGG ATCTCAGTAG TCCAGGCTTT AGTCCTGACT CAACAATACC ACCAGCTAAA   3300
GCCTATAGAG TACGAGCCAT AGGGCGCCTA GTGTTGACAA TTAATCATCG GCATAGTATA   3360
CGGCATAGTA TAATACGACT CACTATAGGA GGGCCACCAT GGCCAAGTTG ACCAGTGCCG   3420
TTCCGGTGCT CACCGCGCGC GACGTCGCCG GAGCGGTCGA GTTCTGGACC GACCGGCTCG   3480
GGTTCTCCCG GGACTTCGTG GAGGACGACT TCGCCGGTGT GGTCCGGGAC GACGTGACCC   3540
TGTTCATCAG CGCGGTCCAG GACCAGGTGG TGCCGGACAA CACCCTGGCC TGGGTGTGGG   3600
TGCGCGGCCT GGACGAGCTG TACGCCGAGT GGTCGGAGGT CGTGTCCACG AACTTCCGGG   3660
ACGCCTCCGG GCCGGCCATG ACCGAGATCG GCGAGCAGCC GTGGGGGCGG GAGTTCGCCC   3720
TGCGCGACCC GGCCGGCAAC TGCGTGCACT TCGTGGCCGA GGAGCAGGAC TGANNNNCGG   3780
ACCGGTCGAC TTGTTAACTT GTTTATTGCA GCTTATAATG GTTACAAATA AAGCAATAGC   3840
ATCACAAATT TCACAAATAA AGCATTTTTT TCACTGCATT CTAGTTGTGG TTTGTCCAAA   3900
CTCATCAATG TATCTTATCA TGTCTGGATC CAGATCTGGG CCCATGCGGC CGCGGATCGA   3960
TNNNNACATG TGAGCAAAAG GCCAGCAAAA GGCCAGGAAC CGTAAAAAGG CCGCGTTGCT   4020
GGCGTTTTTC CATAGGCTCC GCCCCCCTGA CGAGCATCAC AAAAATCGAC GCTCAAGTCA   4080
```

Figure 9b. FBdelPASAF Sequence

```
GAGGTGGCGA AACCCGACAG GACTATAAAG ATACCAGGCG TTTCCCCCTG GAAGCTCCCT    4140
CGTGCGCTCT CCTGTTCCGA CCCTGCCGCT TACCGGATAC CTGTCCGCCT TTCTCCCTTC    4200
GGGAAGCGTG GCGCTTTCTC AATGCTCACG CTGTAGGTAT CTCAGTTCGG TGTAGGTCGT    4260
TCGCTCCAAG CTGGGCTGTG TGCACGAACC CCCCGTTCAG CCCGACCGCT GCGCCTTATC    4320
CGGTAACTAT CGTCTTGAGT CCAACCCGGT AAGACACGAC TTATCGCCAC TGGCAGCAGC    4380
CACTGGTAAC AGGATTAGCA GAGCGAGGTA TGTAGGCGGT GCTACAGAGT TCTTGAAGTG    4440
GTGGCCTAAC TACGGCTACA CTAGAAGGAC AGTATTTGGT ATCTGCGCTC TGCTGAAGCC    4500
AGTTACCTTC GGAAAAAGAG TTGGTAGCTC TTGATCCGGC AAACAAACCA CCGCTGGTAG    4560
CGGTGGTTTT TTTGTTTGCA AGCAGCAGAT TACGCGCAGA AAAAAAGGAT CTCAAGAAGA    4620
TCCTTTGATC TTTTCTACGG GGTCTGACGC TCAGTGGAAC GAAAACTCAC GTTAAGGGAT    4680
TTTGGTCATG AGATTATCAA AAAGGATCTT CACCTAGATC CTTTTAAATT AAAAATGAAG    4740
TTTTAAATCA ATCTAAAGTA TATATGAGTA AACTTGGTCT GACAGTTACC AATGCTTAAT    4800
CAGTGAGGCA CCTATCTCAG CGATCTGTCT ATTTCGTTCA TCCATAGTTG CCTGACTCCC    4860
CGTCGTGTAG ATAACTACGA TACGGGAGGG CTTACCATCT GGCCCCAGTG CTGCAATGAT    4920
ACCGCGAGAC CCACGCTCAC CGGCTCCAGA TTTATCAGCA ATAAACCAGC CAGCCGGAAG    4980
GGCCGAGCGC AGAAGTGGTC CTGCAACTTT ATCCGCCTCC ATCCAGTCTA TTAATTGTTG    5040
CCGGGAAGCT AGAGTAAGTA GTTCGCCAGT TAATAGTTTG CGCAACGTTG TTGCCATTGC    5100
TACAGGCATC GTGGTGTCAC GCTCGTCGTT TGGTATGGCT TCATTCAGCT CCGGTTCCCA    5160
ACGATCAAGG CGAGTTACAT GATCCCCCAT GTTGTGCAAA AAAGCGGTTA GCTCCTTCGG    5220
TCCTCCGATC GTTGTCAGAA GTAAGTTGGC CGCAGTGTTA TCACTCATGG TTATGGCAGC    5280
ACTGCATAAT TCTCTTACTG TCATGCCATC CGTAAGATGC TTTTCTGTGA CTGGTGAGTA    5340
CTCAACCAAG TCATTCTGAG AATAGTGTAT GCGGCGACCG AGTTGCTCTT GCCCGGCGTC    5400
AATACGGGAT AATACCGCGC CACATAGCAG AACTTTAAAA GTGCTCATCA TTGGAAAACG    5460
TTCTTCGGGG CGAAAACTCT CAAGGATCTT ACCGCTGTTG AGATCCAGTT CGATGTAACC    5520
CACTCGTGCA CCCAACTGAT CTTCAGCATC TTTTACTTTC ACCAGCGTTT CTGGGTGAGC    5580
AAAAACAGGA AGGCAAAATG CCGCAAAAAA GGGAATAAGG GCGACACGGA AATGTTGAAT    5640
ACTCATACTC TTCCTTTTTC AATATTATTG AAGCATTTAT CAGGGTTATT GTCTCATGAG    5700
CGGATACATA TTTGAATGTA TTTAGAAAAA TAAACAAATA GGGGTTCCGC GCACATTTCC    5760
CCGAAAAGTG CCACCTGACG TCTAAGAAAC CATTATTATC ATGACATTAA CCTATAAAAA    5820
TAGGCGTATC ACGAGGCCCT TTCGTCTCGC GCGTTTCGGT GATGACGGTG AAAACCTCTG    5880
ACACATGCAG CTCCCGGAGA CGGTCACAGC TTGTCTGTAA GCGGATGCCG GGAGCAGACA    5940
AGCCCGTCAG GGCGCGTCAG CGGGTGTTGG CGGGTGTCGG GGCTGGCTTA ACTATGCGGC    6000
ATCAGAGCAG ATTGTACTGA GAGTGCAC                                       6028
```

Figure 10a. FBdelPMOSAF Sequence

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CATATGCGGT GTGAAATACC GCACAGATGC GTAAGGAGAA AATACCGCAT CAGGCGCCAT      60
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CGCCAGCTGG CGAAAGGGGG ATGTGCTGCA AGGCGATTAA GTTGGGTAAC GCCAGGGTTT     180
TCCCAGTCAC GACGTTGTAA AACGACGGCC AGTGAATTCC GATTAGTTCA ATTTGTTAAA     240
GACAGGATCT CAGTAGTCCA GGCTTTAGTC CTGACTCAAC AATACCACCA GCTAAAACCA     300
CTAGAATACG AGCCACAATA AATAAAAGAT TTTATTTAGT TTCCAGAAAA AGGGGGGGAAT     360
GAAAGACCCC ACCAAATTGC TTAGCCTGAT AGCCGCAGTA ACGCCATTTT GCAAGGCATG     420
GAAAAATACC AAACCAAGAA TAGAGAAGTT CAGATCAAGG GCGGGTACAC GAAAACAGCT     480
AACGTTGGGC CAAACAGGAT ATCTGCGGTG AGCAGTTTCG GCCCCGGCCC GGGGCCAAGA     540
ACAGATGGTC ACCGCGGTTC GGCCCCGGCC CGGGGCCAAG AACAGATGGT CCCCAGATAT     600
GGCCCAACCC TCAGCAGTTT CTTAAGACCC ATCAGATGTT TCCAGGCTCC CCCAAGGACC     660
TGAAATGACC CTGTGCCTTA TTTGAATTAA CCAATCAGCC TGCTTCTCGC TTCTGTTCGC     720
GCGCTTCTGC TTCCCGAGCT CTATAAAAGA GCTCACAACC CCTCACTCGG CGCGCCAGTC     780
CTCCGATAGA CTGAGTCGCC CGGGTACCCG TGTATCCAAT AAATCCTCTT GCTGTTGCAT     840
CCGACTCGTG GTCTCGCTGT TCCTTGGGAG GGTCTCCTCA GAGTGATTGA CTACCCGTCT     900
CGGGGGTCTT TCATTGGGG GCTCGTCCGG GATCTGGAGA CCCCTGCCCA GGGACCACCG     960
ACCCACCACC GGGAGGTAAG CTGGCCAAGA TCTTATATGG GGCACCCCCG CCCCTTGTAA    1020
ACTTCCCTGA CCCTGACATG ACAAGAGTTA CTAACAGCCC CTCTCTCCAA GCTCACTTAC    1080
AGGCTCTCTA CTTAGTCCAG CACGAAGTCT GGAGACCTCT GGCGGCAGCC TACCAAGAAC    1140
AACTGGACCG ACCGGTGGTA CCTCACCCTT ACCGAGTCGG CGACACAGTG TGGGTCCGCC    1200
GACACCAGAC TAAGAACCTA GAACCTCGCT GGAAAGGACC TTACACAGTC CTGCTGACCA    1260
CCCCCACCGC CCTCAAAGTA GACGGCATCG CAGCTTGGAT ACACGCCGCC CACGTGAAGG    1320
CTGCCGACCC CGGGGGTGGA CCATCCTCTA GACTGACATG GCGCGTTCAA CGCTCTCAAA    1380
ACCCCTTAAA AATAAGGTTA ACCCGCGAGG CCCCCTAATC CCCTTAATTC TTCTGATGCT    1440
CAGAGGGGTC AGTACTGCTT CGCCCGGCTC CAGTCCTCAT CAAGTCTATA ATATCACCTG    1500
GGAGGTAACC AATGGAGATC GGGAGACGGT ATGGGCAACT TCTGGCAACC ACCCTCTGTG    1560
GACCTGGTGG CCTGACCTTA CCCCAGATTT ATGTATGTTA GCCCACCATG GACCATCTTA    1620
TTGGGGGCTA GAATATCAAT CCCCTTTTTC TTCTCCCCCG GGGCCCCTT GTTGCTCAGG    1680
GGGCAGCAGC CCAGGCTGTT CCAGAGACTG CGAAGAACCT TTAACCTCCC TCACCCCTCG    1740
GTGCAACACT GCCTGGAACA GACTCAAGCT AGACCAGACA ACTCATAAAT CAAATGAGGG    1800
ATTTTATGTT TGCCCCGGGC CCCACCGCCC CCGAGAATCC AAGTCATGTG GGGGTCCAGA    1860
CTCCTTCTAC TGTGCCTATT GGGGCTGTGA GACAACCGGT AGAGCTTACT GGAAGCCCTC    1920
CTCATCATGG GATTTCATCA CAGTAAACAA CAATCTCACC TCTGACCAGG CTGTCCAGGT    1980
ATGCAAAGAT AATAAGTGGT GCAACCCCTT AGTTATTCGG TTTACAGACG CCGGGAGACG    2040
GGTTACTTCC TGGACCACAG GACATTACTG GGGCTTACGT TTGTATGTCT CCGGACAAGA    2100
TCCAGGGCTT ACATTTGGGA TCCGACTCAG ATACCAAAAT CTAGGACCCC GCGTCCCAAT    2160
AGGGCCAAAC CCCGTTCTGG CAGACCAACA GCCACTCTCC AAGCCCAAAC CTGTTAAGTC    2220
GCCTTCAGTC ACCAAACCAC CCAGTGGGAC TCCTCTCTCC CCTACCCAAC TTCCACCGGC    2280
GGGAACGGAA AATAGGCTGC TAAACTTAGT AGACGGAGCC TACCAAGCCC TCAACCTCAC    2340
CAGTCCTGAC AAAAACCCAAG AGTGCTGGTT GTGTCTAGTA GCGGGACCCC CCTACTACGA    2400
AGGGGTTGCC GTCCTGGGTA CCTACTCCAA CCATACCTCT GCTCCAGCCA ACTGCTCCGT    2460
GGCCTCCCAA CACAAGTTGA CCCTGTCCGA AGTGACCGGA CAGGGACTCT GCATAGGAGC    2520
AGTTCCCAAA ACACATCAGG CCCTATGTAA TACCACCCAG ACAAGCAGTC GAGGGTCCTA    2580
TTATCTAGTT GCCCCTACAG GTACCATGTG GGCTTGTAGT ACCGGGCTTA CTCCATGCAT    2640
CTCCACCACC ATACTGAACC TTACCACTGA TTATTGTGTT CTTGTCGAAC TCTGGCCAAG    2700
AGTCACCTAT CATTCCCCCA GCTATGTTTA CGGCCTGTTT GAGAGATCCA ACCGACACAA    2760
AAGAGAACCG GTGTCGTTAA CCCTGGCCCT ATTATTGGGT GGACTAACCA TGGGGGGAAT    2820
TGCCGCTGGA ATAGGAACAG GGACTACTGC TCTAATGGCC ACTCAGCAAT TCCAGCAGCT    2880
CCAAGCCGCA GTACAGGATG ATCTCAGGGA GGTTGAAAAA TCAATCTCTA ACCTAGAAAA    2940
GTCTCTCACT TCCCTGTCTG AAGTTGTCCT ACAGAATCGA AGGGGCCTAG ACTTGTTATT    3000
TCTAAAAGAA GGAGGGCTGT GTGCTGCTCT AAAAGAAGAA TGTTGCTTCT ATGCGGACCA    3060
CACAGGACTA GTGAGAGACA GCATGGCCAA ATTGAGAGAG AGGCTTAATC AGAGACAGAA    3120
ACTGTTTGAG TCAACTCAAG GATGGTTTGA GGGACTGTTT AACAGATCCC CTTGGTTTAC    3180
CACCTTGATA TCTACCATTA TGGGACCCCT CATTGTACTC CTAATGATTT TGCTCTTCGG    3240
ACCCTGCATT CTTAATCGAT TAGTTCAATT TGTTAAAGAC AGGATCTCAG TAGTCCAGGC    3300
TTTAGTCCTG ACTCAACAAT ACCACCAGCT AAAGCCTATA GAGTACGAGC CATAGGGCGC    3360
CTAGTGTTGA CAATTAATCA TCGGCATAGT ATACGGCATA GTATAATACG ACTCACTATA    3420
GGAGGGCCAC CATGGCCAAG TTGACCAGTG CCGTTCCGGT GCTCACCGCG CGCGACGTCG    3480
CCGGAGCGGT CGAGTTCTGG ACCGACCGGC TCGGGTTCTC CCGGGACTTC GTGGAGGACG    3540
ACTTCGCCGG TGTGGTCCGG GACGACGTGA CCCTGTTCAT CAGCGCGGTC CAGGACCAGG    3600
TGGTGCCGGA CAACACCCTG GCCTGGGTGT GGGTGCGCGG CCTGGACGAG CTGTACGCCG    3660
AGTGGTCGGA GGTCGTGTCC ACGAACTTCC GGGACGCCTC CGGGCCGGCC ATGACCGAGA    3720
TCGGCGAGCA GCCGTGGGGG CGGGAGTTCG CCCTGCGCGA CCCGGCCGGC AACTGCGTGC    3780
ACTTCGTGGC CGAGGAGCAG GACTGANNNN CGGACCGGTC GACTTGTTAA CTTGTTTATT    3840
GCAGCTTATA ATGGTTACAA ATAAAGCAAT AGCATCACAA ATTTCACAAA TAAAGCATTT    3900
TTTTCACTGC ATTCTAGTTG TGGTTTGTCC AAACTCATCA ATGTATCTTA TCATGTCTGG    3960
ATCCAGATCT GGGCCCATGC GGCCGCGGAT CGATNNNNAC ATGTGAGCAA AAGGCCAGCA    4020
AAAGGCCAGG AACCGTAAAA AGGCCGCGTT GCTGGCGTTT TTCCATAGGC TCCGCCCCCC    4080
```

Figure 10b. FBdelPMOSAF Sequence

```
TGACGAGCAT CACAAAAATC GACGCTCAAG TCAGAGGTGG CGAAACCCGA CAGGACTATA
AAGATACCAG GCGTTTCCCC CTGGAAGCTC CCTCGTGCGC TCTCCTGTTC CGACCCTGCC    4140
GCTTACCGGA TACCTGTCCG CCTTTCTCCC TTCGGGAAGC GTGGCGCTTT CTCAATGCTC    4200
ACGCTGTAGG TATCTCAGTT CGGTGTAGGT CGTTCGCTCC AAGCTGGGCT GTGTGCACGA    4260
ACCCCCCGTT CAGCCCGACC GCTGCGCCTT ATCCGGTAAC TATCGTCTTG AGTCCAACCC    4320
GGTAAGACAC GACTTATCGC CACTGGCAGC AGCCACTGGT AACAGGATTA GCAGAGCGAG    4380
GTATGTAGGC GGTGCTACAG AGTTCTTGAA GTGGTGGCCT AACTACGGCT ACACTAGAAG    4440
GACAGTATTT GGTATCTGCG CTCTGCTGAA GCCAGTTACC TTCGGAAAAA GAGTTGGTAG    4500
CTCTTGATCC GGCAAACAAA CCACCGCTGG TAGCGGTGGT TTTTTTGTTT GCAAGCAGCA    4560
GATTACGCGC AGAAAAAAAG GATCTCAAGA AGATCCTTTG ATCTTTTCTA CGGGGTCTGA    4620
CGCTCAGTGG AACGAAAACT CACGTTAAGG GATTTTGGTC ATGAGATTAT CAAAAAGGAT    4680
CTTCACCTAG ATCCTTTTAA ATTAAAAATG AAGTTTTAAA TCAATCTAAA GTATATATGA    4740
GTAAACTTGG TCTGACAGTT ACCAATGCTT AATCAGTGAG GCACCTATCT CAGCGATCTG    4800
TCTATTTCGT TCATCCATAG TTGCCTGACT CCCCGTCGTG TAGATAACTA CGATACGGGA    4860
GGGCTTACCA TCTGGCCCCA GTGCTGCAAT GATACCGCGA GACCCACGCT CACCGGCTCC    4920
AGATTTATCA GCAATAAACC AGCCAGCCGG AAGGGCCGAG CGCAGAAGTG GTCCTGCAAC    4980
TTTATCCGCC TCCATCCAGT CTATTAATTG TTGCCGGGAA GCTAGAGTAA GTAGTTCGCC    5040
AGTTAATAGT TTGCGCAACG TTGTTGCCAT TGCTACAGGC ATCGTGGTGT CACGCTCGTC    5100
GTTTGGTATG GCTTCATTCA GCTCCGGTTC CCAACGATCA AGGCGAGTTA CATGATCCCC    5160
CATGTTGTGC AAAAAAGCGG TTAGCTCCTT CGGTCCTCCG ATCGTTGTCA GAAGTAAGTT    5220
GGCCGCAGTG TTATCACTCA TGGTTATGGC AGCACTGCAT AATTCTCTTA CTGTCATGCC    5280
ATCCGTAAGA TGCTTTTCTG TGACTGGTGA GTACTCAACC AAGTCATTCT GAGAATAGTG    5340
TATGCGGCGA CCGAGTTGCT CTTGCCCGGC GTCAATACGG GATAATACCG CGCCACATAG    5400
CAGAACTTTA AAAGTGCTCA TCATTGGAAA ACGTTCTTCG GGGCGAAAAC TCTCAAGGAT    5460
CTTACCGCTG TTGAGATCCA GTTCGATGTA ACCCACTCGT GCACCCAACT GATCTTCAGC    5520
ATCTTTTACT TTCACCAGCG TTTCTGGGTG AGCAAAAACA GGAAGGCAAA ATGCCGCAAA    5580
AAAGGGAATA AGGGCGACAC GGAAATGTTG AATACTCATA CTCTTCCTTT TTCAATATTA    5640
TTGAAGCATT TATCAGGGTT ATTGTCTCAT GAGCGGATAC ATATTTGAAT GTATTTAGAA    5700
AAATAAACAA ATAGGGGTTC CGCGCACATT TCCCCGAAAA GTGCCACCTG ACGTCTAAGA    5760
AACCATTATT ATCATGACAT TAACCTATAA AAATAGGCGT ATCACGAGGC CCTTTCGTCT    5820
CGCGCGTTTC GGTGATGACG GTGAAAACCT CTGACACATG CAGCTCCCGG AGACGGTCAC    5880
AGCTTGTCTG TAAGCGGATG CCGGGAGCAG ACAAGCCCGT CAGGGCGCGT CAGCGGGTGT    5940
TGGCGGGTGT CGGGGCTGGC TTAACTATGC GGCATCAGAG CAGATTGTAC TGAGAGTGCA    6000
C                                                                    6060
                                                                     6061
```

Figure 11a. FBdelPGASAF Sequence

```
CATATGCGGT GTGAAATACC GCACAGATGC GTAAGGAGAA AATACCGCAT CAGGCGCCAT    60
TCGCCATTCA GGCTGCGCAA CTGTTGGGAA GGGCGATCGG TGCGGGCCTC TTCGCTATTA   120
CGCCAGCTGG CGAAAGGGGG ATGTGCTGCA AGGCGATTAA GTTGGGTAAC GCCAGGGTTT   180
TCCCAGTCAC GACGTTGTAA AACGACGGCC AGTGAATTCC GATTAGTTCA ATTTGTTAAA   240
GACAGGATCT CAGTAGTCCA GGCTTTAGTC CTGACTCAAC AATACCACCA GCTAAAACCA   300
CTAGAATACG AGCCACAATA AATAAAAGAT TTTATTTAGT TTCCAGAAAA AGGGGGGAAT   360
GAAAGACCCC ACCAAATTGC TTAGCCTGAT AGCCGCAGTA ACGCCATTTT GCAAGGCATG   420
GAAAAATACC AAACCAAGAA TAGAGAAGTT CAGATCAAGG GCGGGTACAC GAAAACAGCT   480
AACGTTGGGC CAAACAGGAT ATCTGCGGTG AGCAGTTTCG GCCCCGGCCC GGGGCCAAGA   540
ACAGATGGTC ACCGCGGTTC GGCCCCGGCC CGGGGCCAAG AACAGATGGT CCCCAGATAT   600
GGCCCAACCC TCAGCAGTTT CTTAAGACCC ATCAGATGTT TCCAGGCTCC CCCAAGGACC   660
TGAAATGACC CTGTGCCTTA TTTGAATTAA CCAATCAGCC TGCTTCTCGC TTCTGTTCGC   720
GCGCTTCTGC TTCCCGAGCT CTATAAAAGA GCTCACAACC CCTCACTCGG CGCGCCAGTC   780
CTCCGATAGA CTGAGTCGCC CGGGTACCCG TGTATCCAAT AAATCCTCTT GCTGTTGCAT   840
CCGACTCGTG GTCTCGCTGT TCCTTGGGAG GGTCTCCTCA GAGTGATTGA CTACCCGTCT   900
CGGGGGTCTT TCATTTGGGG GCTCGTCCGG GATCTGGAGA CCCCTGCCCA GGGACCACCG   960
ACCCACCACC GGGAGGTAAG CTGGCCAAGA TCCCTAAGGT ACTCGGGTCA GACAATGGCC  1020
CGGCCTTTGT TGCTCAGGTA AGTCAGGGAC TGGCCACTCA ACTGGGGATA AATTGGAAGT  1080
TACATTGTGC GTATAGACCC CAGAGCTCAG GTCAGGTAGA AAGAATGAAC AGAACAATTA  1140
AAGAGACCTT GACCAAATTA GCCTTAGAGA CCGGTGGAAA AGACTGGGTG ACCCTCCTTC  1200
CCTTAGCGCT GCTTAGGGCC AGGAATACCC CTGGCCGGTT TGGTTTAACT CCTTATGAAA  1260
TTCTCTATGG AGGACCACCC CCCATACTTG AGTCTGGAGA AACTTTGGGT CCCGATGATA  1320
GATTTCTCCC TGTCTTATTT ACTCACTTAA AGGCTTTAGA AATTGTAAGG ACCCAAATCT  1380
GGGACCAGAT CAAAGAGGTG TATAAGCCTG GTACCGTAAC AATCCCTCAC CCGTTCCAGG  1440
TCGGGGATCA AGTGCTTGTC AGACGCCATC GACCCAGCAG CCTTGAGCCT CGGTGGAAAG  1500
GCCCATACCT GGTGTTGCTG ACTACCCCGA CCGCGGTAAA AGTCGATGGT ATTGCTGCCT  1560
GGGTCCATGC TTCTCACCTC AAACCTGCAC CACCTTCGGC ACCAGATGAG TCCTGGGAGC  1620
TGGAAAAGAC TGATCATCCT CTTAAGCTGC GTATTCGGCG GCGGCGGGAC GAGTCTGCAA  1680
AATAAGAACC CCCACCAGCC CATGACCCTC ACTTGGCAGG TACTGTCCCA AACTGGAGAC  1740
GTTGTCTGGG ATACAAAGGC AGTCCAGCCC CCTTGGACTT GGTGGCCCAC ACTTAAACCT  1800
GATGTATGTG CCTTGGCGGC TAGTCTTGAG TCCTGGGATA TCCCGGGAAC CGATGTCTCG  1860
TCCTCTAAAC GAGTCAGACC TCCGGACTCA GACTATACTG CCGCTTATAA GCAAATCACC  1920
TGGGGAGCCA TAGGGTGCAG CTACCCTCGG GCTAGGACTA GAATGGCAAG CTCTACCTTC  1980
TACGTATGTC CCCGGGATGG CCGGACCCTT TCAGAAGCTA GAAGGTGCGG GGGGCTAGAA  2040
TCCCTATACT GTAAAGAATG GGATTGTGAG ACCACGGGGA CCGGTTATTG GCTATCTAAA  2100
TCCTCAAAAG ACCTCATAAC TGTAAAATGG GACCAAAATA GCGAATGGAC TCAAAAATTT  2160
CAACAGTGTC ACCAGACCGG CTGGTGTAAC CCCCTTAAAA TAGATTTCAC AGACAAAGGA  2220
AAATTATCCA AGGACTGGAT AACGGGAAAA ACCTGGGGAT TAAGATTCTA TGTGTCTGGA  2280
CATCCAGGCG TACAGTTCAC CATTCGCTTA AAAATCACCA ACATGCCAGC TGTGGCAGTA  2340
GGTCCTGACC TCGTCCTTGT GGAACAAGGA CCTCCTAGAA CGTCCCTCGC TCTCCCACCT  2400
CCTCTTCCCC CAAGGGAAGC GCCACCGCCA TCTCTCCCCG ACTCTAACTC CACAGCCCTG  2460
GCGACTAGTG CACAAACTCC CACGGTGAGA AAAACAATTG TTACCCTAAA CACTCCGCCT  2520
CCCACCACAG GCGACAGACT TTTTGATCTT GTGCAGGGGG CCTTCCTAAC CTTAAATGCT  2580
ACCAACCCAG GGGCCACTGA GTCTTGCTGG CTTTGTTTGG CCATGGGCCC CCCTTATTAT  2640
GAAGCAATAG CCTCATCAGG AGAGGTCGCC TACTCCACCG ACCTTGACCG GTGCCGCTGG  2700
GGGACCCAAG GAAAGCTCAC CCTCACTGAG GTCTCAGGAC ACGGGTTGTG CATAGGAAAG  2760
GTGCCCTTTA CCCATCAGCA TCTCTGCAAT CAGACCCTAT CCATCAATTC CTCCGGAGAC  2820
CATCAGTATC TGCTCCCCTC CAACCATAGC TGGTGGGCTT GCAGCACTGG CCTCACCCCT  2880
TGCCTCTCCA CCTCAGTTTT TAATCAGACT AGAGATTTCT GTATCCAGGT CCAGCTGATT  2940
CCTCGCATCT ATTACTATCC TGAAGAAGTT TTGTTACAGG CCTATGACAA TTCTCACCCC  3000
AGGACTAAAA GAGAGGCTGT CTCACTTACC CTAGCTGTTT TACTGGGGTT GGGAATCACG  3060
GCGGGAATAG GTACTGGTTC AACTGCCTTA ATTAAAGGAC CTATAGACCT CCAGCAAGGC  3120
CTGACAAGCC TCCAGATCGC CATAGATGCT GACCTCCGGG CCCTCCAAGA CTCAGTCAGC  3180
AAGTTAGAGG ACTCACTGAC TTCCCTGTCC GAGGTAGTGC TCCAAAATAG GAGAGGCCTT  3240
GACTTGCTGT TTCTAAAAGA AGGTGGCCTC TGTGCGGCCC TAAAGGAAGA GTGCTGTTTT  3300
TACATAGACC ACTCAGGTGC AGTACGGGAC TCCATGAAAA AACTCAAAGA AAAACTGGAT  3360
AAAAGACAGT TAGAGCGCCA GAAAAGCCAA AACTGGTATG AAGGATGGTT CAATAACTCC  3420
CCTTGGTTCA CTACCCTGCT ATCAACCATC GCTGGGCCCC TATTACTCCT CCTTCTGTTG  3480
CTCATCCTCG GGCCATGCAT CATCAATCGA TTAGTTCAAT TTGTTAAAGA CAGGATCTCA  3540
GTAGTCCAGG CTTTAGTCCT GACTCAACAA TACCACCAGC TAAAGCCTAT AGAGTACGAG  3600
CCATAGGGCG CCTAGTGTTG ACAATTAATC ATCGGCATAG TATACGGCAT AGTATAATAC  3660
GACTCACTAT AGGAGGGCCA CCATGGCCAA GTTGACCAGT GCCGTTCCGG TGCTCACCGC  3720
GCGCGACGTC GCCGGAGCGG TCGAGTTCTG GACCGACCGG CTCGGGTTCT CCCGGGACTT  3780
CGTGGAGGAC GACTTCGCCG GTGTGGTCCG GGACGACGTG ACCCTGTTCA TCAGCGCGGT  3840
CCAGGACCAG GTGGTGCCGG ACAACACCCT GGCCTGGGTG TGGGTGCGCG GCCTGGACGA  3900
GCTGTACGCC GAGTGGTCGG AGGTCGTGTC CACGAACTTC CGGGACGCCT CCGGGCCGGC  3960
CATGACCGAG ATCGGCGAGC AGCCGTGGGG GCGGGAGTTC GCCCTGCGCG ACCCGGCCGG  4020
CAACTGCGTG CACTTCGTGG CCGAGGAGCA GGACTGANNN NCGGACCGGT CGACTTGTTA  4080
```

Figure 11b. FBdelPGASAF Sequence

```
ACTTGTTTAT  TGCAGCTTAT  AATGGTTACA  AATAAAGCAA  TAGCATCACA  AATTTCACAA
ATAAAGCATT  TTTTTCACTG  CATTCTAGTT  GTGGTTTGTC  CAAACTCATC  AATGTATCTT   4140
ATCATGTCTG  GATCCAGATC  TGGGCCCATG  CGGCCGCGGA  TCGATNNNNA  CATGTGAGCA   4200
AAAGGCCAGC  AAAAGGCCAG  GAACCGTAAA  AAGGCCGCGT  TGCTGGCGTT  TTTCCATAGG   4260
CTCCGCCCCC  CTGACGAGCA  TCACAAAAAT  CGACGCTCAA  GTCAGAGGTG  GCGAAACCCG   4320
ACAGGACTAT  AAAGATACCA  GGCGTTTCCC  CCTGGAAGCT  CCCTCGTGCG  CTCTCCTGTT   4380
CCGACCCTGC  CGCTTACCGG  ATACCTGTCC  GCCTTTCTCC  CTTCGGGAAG  CGTGGCGCTT   4440
TCTCAATGCT  CACGCTGTAG  GTATCTCAGT  TCGGTGTAGG  TCGTTCGCTC  CAAGCTGGGC   4500
TGTGTGCACG  AACCCCCCGT  TCAGCCCGAC  CGCTGCGCCT  TATCCGGTAA  CTATCGTCTT   4560
GAGTCCAACC  CGGTAAGACA  CGACTTATCG  CCACTGGCAG  CAGCCACTGG  TAACAGGATT   4620
AGCAGAGCGA  GGTATGTAGG  CGGTGCTACA  GAGTTCTTGA  AGTGGTGGCC  TAACTACGGC   4680
TACACTAGAA  GGACAGTATT  TGGTATCTGC  GCTCTGCTGA  AGCCAGTTAC  CTTCGGAAAA   4740
AGAGTTGGTA  GCTCTTGATC  CGGCAAACAA  ACCACCGCTG  GTAGCGGTGG  TTTTTTTGTT   4800
TGCAAGCAGC  AGATTACGCG  CAGAAAAAAA  GGATCTCAAG  AAGATCCTTT  GATCTTTTCT   4860
ACGGGGTCTG  ACGCTCAGTG  GAACGAAAAC  TCACGTTAAG  GGATTTTGGT  CATGAGATTA   4920
TCAAAAAGGA  TCTTCACCTA  GATCCTTTTA  AATTAAAAAT  GAAGTTTTAA  ATCAATCTAA   4980
AGTATATATG  AGTAAACTTG  GTCTGACAGT  TACCAATGCT  TAATCAGTGA  GGCACCTATC   5040
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ACGATACGGG  AGGGCTTACC  ATCTGGCCCC  AGTGCTGCAA  TGATACCGCG  AGACCCACGC   5160
TCACCGGCTC  CAGATTTATC  AGCAATAAAC  CAGCCAGCCG  GAAGGGCCGA  GCGCAGAAGT   5220
GGTCCTGCAA  CTTTATCCGC  CTCCATCCAG  TCTATTAATT  GTTGCCGGGA  AGCTAGAGTA   5280
AGTAGTTCGC  CAGTTAATAG  TTTGCGCAAC  GTTGTTGCCA  TTGCTACAGG  CATCGTGGTG   5340
TCACGCTCGT  CGTTTGGTAT  GGCTTCATTC  AGCTCCGGTT  CCCAACGATC  AAGGCGAGTT   5400
ACATGATCCC  CCATGTTGTG  CAAAAAAGCG  GTTAGCTCCT  TCGGTCCTCC  GATCGTTGTC   5460
AGAAGTAAGT  TGGCCGCAGT  GTTATCACTC  ATGGTTATGG  CAGCACTGCA  TAATTCTCTT   5520
ACTGTCATGC  CATCCGTAAG  ATGCTTTTCT  GTGACTGGTG  AGTACTCAAC  CAAGTCATTC   5580
TGAGAATAGT  GTATGCGGCG  ACCGAGTTGC  TCTTGCCCGG  CGTCAATACG  GGATAATACC   5640
GCGCCACATA  GCAGAACTTT  AAAAGTGCTC  ATCATTGGAA  AACGTTCTTC  GGGGCGAAAA   5700
CTCTCAAGGA  TCTTACCGCT  GTTGAGATCC  AGTTCGATGT  AACCCACTCG  TGCACCCAAC   5760
TGATCTTCAG  CATCTTTTAC  TTTCACCAGC  GTTTCTGGGT  GAGCAAAAAC  AGGAAGGCAA   5820
AATGCCGCAA  AAAAGGGAAT  AAGGGCGACA  CGGAAATGTT  GAATACTCAT  ACTCTTCCTT   5880
TTTCAATATT  ATTGAAGCAT  TTATCAGGGT  TATTGTCTCA  TGAGCGGATA  CATATTTGAA   5940
TGTATTTAGA  AAAATAAACA  AATAGGGGTT  CCGCGCACAT  TTCCCCGAAA  AGTGCCACCT   6000
GACGTCTAAG  AAACCATTAT  TATCATGACA  TTAACCTATA  AAAATAGGCG  TATCACGAGG   6060
CCCTTTCGTC  TCGCGCGTTT  CGGTGATGAC  GGTGAAAACC  TCTGACACAT  GCAGCTCCCG   6120
GAGACGGTCA  CAGCTTGTCT  GTAAGCGGAT  GCCGGGAGCA  GACAAGCCCG  TCAGGGCGCG   6180
TCAGCGGGTG  TTGGCGGGTG  TCGGGGCTGG  CTTAACTATG  CGGCATCAGA  GCAGATTGTA   6240
CTGAGAGTGC  AC                                                          6300
                                                                        6312
```

Figure 12a. FBdelPRDSAF Sequence

```
CATATGCGGT GTGAAATACC GCACAGATGC GTAAGGAGAA AATACCGCAT CAGGCGCCAT
TCGCCATTCA GGCTGCGCAA CTGTTGGGAA GGGCGATCGG TGCGGGCCTC TTCGCTATTA    60
CGCCAGCTGG CGAAAGGGGG ATGTGCTGCA AGGCGATTAA GTTGGGTAAC GCCAGGGTTT   120
TCCCAGTCAC GACGTTGTAA AACGACGGCC AGTGAATTCC GATTAGTTCA ATTTGTTAAA   180
GACAGGATCT CAGTAGTCCA GGCTTTAGTC CTGACTCAAC AATACCACCA GCTAAAACCA   240
CTAGAATACG AGCCACAATA AATAAAAGAT TTTATTTAGT TTCCAGAAAA AGGGGGGAAT   300
GAAAGACCCC ACCAAATTGC TTAGCCTGAT AGCCGCAGTA ACGCCATTTT GCAAGGCATG   360
GAAAAATACC AAACCAAGAA TAGAGAAGTT CAGATCAAGG GCGGGTACAC GAAAACAGCT   420
AACGTTGGGC CAAACAGGAT ATCTGCGGTG AGCAGTTTCG GCCCCGGCCC GGGGCCAAGA   480
ACAGATGGTC ACCGCGGTTC GGCCCCGGCC CGGGGCCAAG AACAGATGGT CCCCAGATAT   540
GGCCCAACCC TCAGCAGTTT CTTAAGACCC ATCAGATGTT TCCAGGCTCC CCCAAGGACC   600
TGAAATGACC CTGTGCCTTA TTTGAATTAA CCAATCAACC TGCTTCTCGC TTCTGTTCGC   660
GCGCTTCTGC TTCCCGAGCT CTATAAAAGA GCTCACAACC CCTCACTCGG CGCGCCAGTC   720
CTCCGATAGA CTGAGTCGCC CGGGTACCCG TGTATCCAAT AAATCCTCTT GCTGTTGCAT   780
CCGACTCGTG GTCTCGCTGT TCCTTGGGAG GGTCTCCTCA GAGTGATTGA CTACCCGTCT   840
CGGGGGTCTT TCATTTGGGG GCTCGTCCGG GATCTGGAGA CCCCTGCCCA GGGACCACCG   900
ACCCACCACC GGGAGGTAAG CTGGCCAAGA TCCCCCGGGC TGCAGGAATT TATGAAATCC   960
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AGACTGATTT ACAAGCCCGA CTAAAAGGGC TGCAAGGCGT GCAGGCCCAA ATCTGGACAC  1080
CCCTGGCCGA ATTGTACCGG CCAGGACATC CACAAACTAG CCACCCATTT CAGGTGGGAG  1140
ACTCCGTGTA CGTCCGGCGG CACCGCTCTC AAGGATTGGA GCCTCGTTGG AAGGGACCTT  1200
ACATCGTCCT GCTGACCACG CCCACCGCCA TAAAGGTTGA CGGGATCGCC GCCTGGATTC  1260
ACGCATCGCA CGCCAAGGCA GCCCCAAAAA CCCCTGGACC AGAAACTCCC AAAACCTGGA  1320
AGCTCCGCCG TTCGGAGAAC CCTCTTAAGA TAAGACTCTC CCGTGTCTGA CTGCTAATCC  1380
ACCTTGTCCC TGTACTAACC CAAAATGAAA CTCCCAACAG GAATGGTCAT TTTATGTAGC  1440
CTAATAATAG TTCGGGCAGG GTTTGACGAC CCCCGCAAGG CTATCGCATT AGTACAAAAA  1500
CAACATGGTA AACCATGCGA ATGCAGCGGA GGGCAGGTAT CCGAGGCCCC ACCGAACTCC  1560
ATCCAACAGG TAACTTGCCC AGGCAAGACG GCCTACTTAA TGACCAACCA AAAATGGAAA  1620
TGCAGAGTCA CTCCAAAAAT CTCACCTAGC GGGGGAGAAC TCCAGAACTG CCCCTGTAAC  1680
ACTTTCCAGG ACTCGATGCA CAGTTCTTGT TATACTGAAT ACCGGCAATG CAGGCGAATT  1740
AATAAGACAT ACTACACGGC CACCTTGCTT AAAATACGGT CTGGGAGCCT CAACGAGGTA  1800
CAGATATTAC AAAACCCCAA TCAGCTCCTA CAGTCCCCTT GTAGGGGCTC TATAAATCAG  1860
CCCGTTTGCT GGAGTGCCAC AGCCCCCATC CATATCTCCG ATGGTGGAGG ACCCCTCGAT  1920
ACTAAGAGAG TGTGGACAGT CCAAAAAAGG CTAGAACAAA TTCATAAGGC TATGACTCCT  1980
GAACTTCAAT ACCACCCCTT AGCCCTGCCC AAAGTCAGAG ATGACCTTAG CCTTGATGCA  2040
CGGACTTTTG ATATCCTGAA TACCACTTTT AGGTTACTCC AGATGTCCAA TTTTAGCCTT  2100
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GCATACACCT ATTTACCCCA AAAACTGGACC AGACTTTGCG TCCAAGCCTC CCTCCTCCCC  2460
GACATTGACA TCAACCCGGG GGATGAGCCA GTCCCCATTC CTGCCATTGA TCATTATATA  2520
CATAGACCTA AACGAGCTGT ACAGTTCATC CCTTTACTAG CTGGACTGGG AATCACCGCA  2580
GCATTCACCA CCGGAGCTAC AGGCCTAGGT GTCTCCGTCA CCCAGTATAC AAAATTATCC  2640
CATCAGTTAA TATCTGATGT CCAAGTCTTA TCCGGTACCA TACAAGATTT ACAAGACCAG  2700
GTAGACTCGT TAGCTGAAGT AGTTCTCCAA AATAGGAGGG GACTGGACCT ACTAACGGCA  2760
GAACAAGGAG GAATTTGTTT AGCCTTACAA GAAAAATGCT GTTTTTATGC TAACAAGTCA  2820
GGAATTGTGA GAAACAAAAT AAGAACCCTA CAAGAAGAAT TACAAAAACG CAGGGAAAGC  2880
CTGGCAACCA ACCCTCTCTG GACCGGGCTG CAGGGCTTTC TTCCGTACCT CCTACCTCTC  2940
CTGGGACCCC TACTCACCCT CCTACTCATA CTAACCATTG GGCCATGCGT TTTCAGTCGC  3000
CTCATGGCCT TCATTAATGA TAGACTTAAT GTTGTACATG CCATGGTGCT GGCCCAGCAA  3060
TACCAAGCAC TCAAAGCTGA GGAAGAAGCT CAGGATTGAG GCGCCTAGTG TTGACAATTA  3120
ATCATCGGCA TAGTATACGG CATAGTATAA TACGACTCAC TATAGGAGGG CCACCATGGC  3180
CAAGTTGACC AGTGCCGTTC CGGTGCTCAC CGCGCGCGAC GTCGCCGGAG CGGTCGAGTT  3240
CTGGACCGAC CGGCTCGGGT TCTCCCGGGA CTTCGTGGAG GACGACTTCG CCGGTGTGGT  3300
CCGGGACGAC GTGACCCTGT TCATCAGCGC GGTCCAGGAC CAGGTGGTGC GGACAAACAC  3360
CCTGGCCTGG GTGTGGGTGC GCGGCCTGGA CGAGCTGTAC GCCGAGTGGT CGGAGGTCGT  3420
GTCCACGAAC TTCCGGGACG CCTCCGGGCC GGCCATGACC GAGATCGGCG AGCAGCCGTG  3480
GGGGCGGGAG TTCGCCCTGC GCGACCGGGC CGGCAACTGC GTGCACTTCG TGGCCGAGGA  3540
GCAGGACTGA NNNNCGGACC GGTCGACTTG TTAACTTGTT TATTGCAGCT TATAATGGTT  3600
ACAAATAAAG CAATAGCATC ACAAATTTCA CAAATAAAGC ATTTTTTTCA CTGCATTCTA  3660
GTTGTGGTTT GTCCAAACTC ATCAATGTAT CTTATCATGT CTGGATCCAG ATCTGGGCCC  3720
ATGCGGCCGC GGATCGATNN NNACATGTGA GCAAAAGGCC AGCAAAAGGC CAGGAACCGT  3780
AAAAAGGCCG CGTTGCTGGC GTTTTTCCAT AGGCTCCGCC CCCCTGACGA GCATCACAAA  3840
AATCGACGCT CAAGTCAGAG GTGGCGAAAC CCGACAGGAC TATAAAGATA CCAGGCGTTT  3900
CCCCCTGGAA GCTCCCTCGT GCGCTCTCCT GTTCCGACCC TGCCGCTTAC CGGATACCTG  3960
TCCGCCTTTC TCCCTTCGGG AAGCGTGGCG CTTTCTCAAT GCTCACGCTG TAGGTATCTC  4020
                                                                   4080
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Figure 12b. FBdelPRDSAF Sequence

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AGTTCGGTGT AGGTCGTTCG CTCCAAGCTG GGCTGTGTGC ACGAACCCCC CGTTCAGCCC
GACCGCTGCG CCTTATCCGG TAACTATCGT CTTGAGTCCA ACCCGGTAAG ACACGACTTA    4140
TCGCCACTGG CAGCAGCCAC TGGTAACAGG ATTAGCAGAG CGAGGTATGT AGGCGGTGCT    4200
ACAGAGTTCT TGAAGTGGTG GCCTAACTAC GGCTACACTA GAAGGACAGT ATTTGGTATC    4260
TGCGCTCTGC TGAAGCCAGT TACCTTCGGA AAAAGAGTTG GTAGCTCTTG ATCCGGCAAA    4320
CAAACCACCG CTGGTAGCGG TGGTTTTTTT GTTTGCAAGC AGCAGATTAC GCGCAGAAAA    4380
AAAGGATCTC AAGAAGATCC TTTGATCTTT TCTACGGGGT CTGACGCTCA GTGGAACGAA    4440
AACTCACGTT AAGGGATTTT GGTCATGAGA TTATCAAAAA GGATCTTCAC CTAGATCCTT    4500
TTAAATTAAA AATGAAGTTT TAAATCAATC TAAAGTATAT ATGAGTAAAC TTGGTCTGAC    4560
AGTTACCAAT GCTTAATCAG TGAGGCACCT ATCTCAGCGA TCTGTCTATT TCGTTCATCC    4620
ATAGTTGCCT GACTCCCCGT CGTGTAGATA ACTACGATAC GGGAGGGCTT ACCATCTGGC    4680
CCCAGTGCTG CAATGATACC GCGAGACCCA CGCTCACCGG CTCCAGATTT ATCAGCAATA    4740
AACCAGCCAG CCGGAAGGGC CGAGCGCAGA AGTGGTCCTG CAACTTTATC CGCCTCCATC    4800
CAGTCTATTA ATTGTTGCCG GGAAGCTAGA GTAAGTAGTT CGCCAGTTAA TAGTTTGCGC    4860
AACGTTGTTG CCATTGCTAC AGGCATCGTG GTGTCACGCT CGTCGTTTGG TATGGCTTCA    4920
TTCAGCTCCG GTTCCCAACG ATCAAGGCGA GTTACATGAT CCCCCATGTT GTGCAAAAAA    4980
GCGGTTAGCT CCTTCGGTCC TCCGATCGTT GTCAGAAGTA AGTTGGCCGC AGTGTTATCA    5040
CTCATGGTTA TGGCAGCACT GCATAATTCT CTTACTGTCA TGCCATCCGT AAGATGCTTT    5100
TCTGTGACTG GTGAGTACTC AACCAAGTCA TTCTGAGAAT AGTGTATGCG GCGACCGAGT    5160
TGCTCTTGCC CGGCGTCAAT ACGGGATAAT ACCGCGCCAC ATAGCAGAAC TTTAAAAGTG    5220
CTCATCATTG GAAAACGTTC TTCGGGGCGA AAACTCTCAA GGATCTTACC GCTGTTGAGA    5280
TCCAGTTCGA TGTAACCCAC TCGTGCACCC AACTGATCTT CAGCATCTTT TACTTTCACC    5340
AGCGTTTCTG GGTGAGCAAA AACAGGAAGG CAAAATGCCG CAAAAAAGGG AATAAGGGCG    5400
ACACGGAAAT GTTGAATACT CATACTCTTC CTTTTTCAAT ATTATTGAAG CATTTATCAG    5460
GGTTATTGTC TCATGAGCGG ATACATATTT GAATGTATTT AGAAAAATAA ACAAATAGGG    5520
GTTCCGCGCA CATTTCCCCG AAAAGTGCCA CCTGACGTCT AAGAAACCAT TATTATCATG    5580
ACATTAACCT ATAAAAATAG GCGTATCACG AGGCCCTTTC GTCTCGCGCG TTTCGGTGAT    5640
GACGGTGAAA ACCTCTGACA CATGCAGCTC CCGGAGACGG TCACAGCTTG TCTGTAAGCG    5700
GATGCCGGGA GCAGACAAGC CCGTCAGGGC GCGTCAGCGG GTGTTGGCGG GTGTCGGGGC    5760
TGGCTTAACT ATGCGGCATC AGAGCAGATT GTACTGAGAG TGCAC                    5820
                                                                     5865
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Figure 13. hCMV10A1 Sequence

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AGATCTCCCG ATCCCCTATG GTCGACTCTC AGTACAATCT GCTCTGATGC CGCATAGTTA      60
AGCCAGTATC TGCTCCCTGC TTGTGTGTTG GAGGTCGCTG AGTAGTGCGC GAGCAAAATT     120
TAAGCTACAA CAAGGCAAGG CTTGACCGAC AATTGCATGA AGAATCTGCT TAGGGTTAGG     180
CGTTTTGCGC TGCTTCGCGA TGTACGGGCC AGATATACGC GTTGACATTG ATTATTGACT     240
AGTTATTAAT AGTAATCAAT TACGGGGTCA TTAGTTCATA GCCCATATAT GGAGTTCCGC     300
GTTACATAAC TTACGGTAAA TGGCCCGCCT GGCTGACCGC CCAACGACCC CCGCCCATTG     360
ACGTCAATAA TGACGTATGT TCCCATAGTA ACGCCAATAG GGACTTTCCA TTGACGTCAA     420
TGGGTGGACT ATTTACGGTA AACTGCCCAC TTGGCAGTAC ATCAAGTGTA TCATATGCCA     480
AGTACGCCCC CTATTGACGT CAATGACGGT AAATGGCCCG CCTGGCATTA TGCCCAGTAC     540
ATGACCTTAT GGGACTTTCC TACTTGGCAG TACATCTACG TATTAGTCAT CGCTATTACC     600
ATGGTGATGC GGTTTTGGCA GTACATCAAT GGGCGTGGAT AGCGGTTTGA CTCACGGGGA     660
TTTCCAAGTC TCCACCCCAT TGACGTCAAT GGGAGTTTGT TTTGGCACCA AAATCAACGG     720
GACTTTCCAA AATGTCGTAA CAACTCCGCC CCATTGACGC AAATGGGCGG TAGGCGTGTA     780
CGGTGGGAGG TCTATATAAG CAGAGCTCTC TGGCTAACTA GAGAACCCAC TGCTTAACTG     840
GCTTATCGAA ATGTCGACTG AGAACTTCAG GGTGAGTTTG GGGACCCTTG ATTGTTCTTT     900
CTTTTTCGCT ATTGTAAAAT TCATGTTATA TGGAGGGGGC AAAGTTTTCA GGGTGTTGTT     960
TAGAATGGGA AGATGTCCCT TGTATCACCA TGGACCCTCA TGATAATTTT GTTTCTTTCA    1020
CTTTCTACTC TGTTGACAAC CATTGTCTCC TCTTATTTTC TTTTCATTTT CTGTATTCTT    1080
TTCGTTAAAC TTTAGCTTGC ATTTGTAACG AATTTTTAAA TTCACTTTTG TTTATTTGTC    1140
AGATTGTAAG TACTTTCTCT AATCACTTTT TTTTCAAGGC AATCAGGGTA TATTATATTG    1200
TACTTCAGCA CAGTTTTAGA GAACAATTGT TATAATTAAA TGATAAGGTA GAATATTTCT    1260
GCATATAAAT TCTGGCTGGC GTGGAAATAT TCTTATTGGT AGAAACAACT ACATCCTGGT    1320
CATCATCCTG CCTTTCTCTT TATGGTTACA ATGATATACA CTGTTTGAGA TGAGGATAAA    1380
ATACTCTGAG TCCAAACCGG GCCCCTCTGC TAACCATGTT CATGCCTTCT TCTTTTTCCT    1440
ACAGCTCCTG GGCAACGTGC TGGTTGTTGT GCTGTCTCAT CATTTTGGCA AGGATCGGCC    1500
GGAACAGCAT CAGGACCGAC ATGGAAGGTC CAGCGTTCTC AAAACCCCTT AAAGATAAGA    1560
TTAACCCGTG GAAGTCCTTA ATGGTCATGG GGGTCTATTT AAGAGTAGGG ATGGCAGAGA    1620
GCCCCCATCA GGTCTTTAAT GTAACCTGGA GAGTCACCAA CCTGATGACT GGGCGTACCG    1680
CCAATGCCAC CTCCCTTTTA GGAACTGTAC AAGATGCCTT CCCAAGATTA TATTTTGATC    1740
TATGTGATCT GGTCGGAGAA GAGTGGGACC CTTCAGACCA GGAACCATAT GTCGGGTATG    1800
GCTGCAAATA CCCCGGAGGG AGAAAGCGGA CCCGGACTTT TGACTTTTAC GTGTGCCCTG    1860
GGCATACCGT AAAATCGGGG TGTGGGGGGC CAAGAGAGGG CTACTGTGGT GAATGGGGTT    1920
GTGAAACCAC CGGACAGGCT TACTGGAAGC CCACATCATC ATGGGACCTA ATCTCCCTTA    1980
AGCGCGGTAA CACCCCCTGG GACACGGGAT GCTCCAAAAT GGCTTGTGGC CCCTGCTACG    2040
ACCTCTCCAA AGTATCCAAT TCCTTCCAAG GGGCTACTCG AGGGGGCAGA TGCAACCCTC    2100
TAGTCCTAGA ATTCACTGAT GCAGGAAAAA AGGCTAATTG GGACGGGCCC AAATCGTGGG    2160
GACTGAGACT GTACCGGACA GGAACAGATC CTATTACCAT GTTCTCCCTG ACCCGCCAGG    2220
TCCTCAATAT AGGGCCCCGC ATCCCCATTG GCCTAATCC CGTGATCACT GGTCAACTAC     2280
CCCCCTCCCG ACCCGTGCAG ATCAGGCTCC CCAGGCCTCC TCAGCCTCCT CCTACAGGCG    2340
CAGCCTCTAT AGTCCCTGAG ACTGCCCCAC CTTCTCAACA ACCTGGGACG GGAGACAGGC    2400
TGCTAAACCT GGTAGAAGGA GCCTATCAGG CGCTTAACCT CACCAATCCC GACAAGACCC    2460
AAGAATGTTG GCTGTGCTTA GTGTCGGGAC CTCCTTATTA CGAAGGAGTA GCGGTCGTGG    2520
GCACTTATAC CAATCATTCT ACCGCCCCGG CCAGCTGTAC GGCCACTTCC CAACATAAGC    2580
TTACCCTATC TGAAGTGACA GGACAGGGCC TATGCATGGG AGCACTACCT AAAACTCACC    2640
AGGCCTTATG TAACACCACC CAAAGTGCCG GCTCAGGATC CTACTACCTT GCAGCACCCG    2700
CTGGAACAAT GTGGGCTTGT AGCACTGGAT TGACTCCCTG CTTGTCCACC ACGATGCTCA    2760
ATCTAACCAC AGACTATTGT GTATTAGTTG AGCTCTGGCC CAGAATAATT TACCACTCCC    2820
CCGATTATAT GTATGGTCAG CTTGAACAGC GTACCAAATA TAAGAGGGAG CCAGTATCGT    2880
TGACCCTGGC CCTTCTGCTA GGAGGATTAA CCATGGGAGG GATTGCAGCT GGAATAGGGA    2940
CGGGGACCAC TGCCCTAATC AAAACCCAGC AGTTTGAGCA GCTTCACGCC GCTATCCAGA    3000
CAGACCTCAA CGAAGTCGAA AAATCAATTA CCAACCTAGA AAAGTCACTG ACCTCGTTGT    3060
CTGAAGTAGT CCTACAGAAC CGAAGAGGCC TAGATTTGCT CTTCCTAAAA GAGGGAGGTC    3120
TCTGCGCAGC CCTAAAAGAA GAATGTTGTT TTTATGCAGA CCACACGGGA CTAGTGAGAG    3180
ACAGCATGGC CAAACTAAGG GAAAGGCTTA ATCAGAGACA AAAACTATTT GAGTCAGGCC    3240
AAGGTTGGTT CGAAGGGCAG TTTAATAGAT CCCCCTGGTT TACCACCTTA ATCTCCACCA    3300
TCATGGGACC TCTAATAGTA CTCTTACTGA TCTTACTCTT TGGACCCTGC ATTCTCAATC    3360
GATTAGTTCA ATTTGTTAAA GACAGGATCT CAGTAGTCCA GGCTTTAGTC CTGACTCAAC    3420
AATACCACCA GCTAAAGCCT ATAGAGTACG AGCCATAGGG CGCCTAGTGT TGACAATTAA    3480
TCATCGGCAT AGTATACGGC ATAGTATAAT ACGACTCACT ATAGGAGGGC CACCATGGCC    3540
AAGTTGACCA GTGCCGTTCC GGTGCTCACC GCGCGCGACG TCGCCGACGG GGTCGAGTTC    3600
TGGACCGACC GGCTCGGGTT CTCCCGGGAC TTCGTGGAGG ACGACTTCGC CGGTGTGGTC    3660
CGGGACGACG TGACCCTGTT CATCAGCGCG GTCCAGGACC AGGTGGTGCC GGACAACACC    3720
CTGGCCTGGG TGTGGGTGCG CGGCCTGGAC GAGCTGTACG CCGAGTGGTC GGAGGTCGTG    3780
TCCACGAACT TCCGGGACGC CTCCGGGCCG GCCATGACCG AGATCGGCGA GCAGCCGTGG    3840
GGGCGGGAGT TCGCCCTGCG CGACCCGGCC GGCAACTGCG TGCACTTCGT GGCCGAGGAG    3900
CAGGACTGAN NNNCGGACCG GTCGA                                         3925
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